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THE NORMAL SCHOOL PROBLEM AND THE PROBLEM OF THE SCHOOLS.

BY H. H. STRAIGHT.

The first systematic studies ever made upon human beings with true pedagogical intent by those capable of observing and interpreting pedagogical facts, so far as we are aware, were the studies of Pereira upon deaf mutes, and those of Itard upon a savage idiot. The conclusions from these studies were: That the senses, one and all, can be subjected to physiological training by which their primordial capability may be indefinitely intellectualized; that one sense may be substituted for another as a means of comprehension and of intellectual culture; that the physiological exercise of one sense corroborates the action as well as verifies the acquisition of the others; that our most abstract ideas of the external world are derived from materials furnished by the senses; that educating the modes of perception is to prepare pabulum for the mind proper; that the problem of education is to develop the senses, the intellect, the affective functions; that the powers and faculties of the soul can only be reached through the development of a proper physical organization, which is to be the seat of their manifestations; that the entire human being is a physiological unit for purposes of education. These noble results in pedagogical science form the rich legacy which the idiot and deaf mute have bequeathed to their more gifted brethren of the human race. They teach us the solidarity of the race as well as that of the individual.

Rousseau lived in the same street with Pereira, and was a frequent visitor in his school. Says Seguin: "The *Emile* is full of ex-

periments upon physiological teaching, which could only have originated in the school for the deaf mutes. So identical are the theories of the book with the practice of Pereira, and the first school where deaf mutes were taught to speak naturally, and the first treatise on education, whose object was to create not a subject but a man, stand side by side as the two indices on the road of modern education. Pestalozzi added no new conception to educational science, but gave a mighty impulse to ideas already born into the world. His weakness lay in his lack of scientific knowledge and practical insight; his strength, in his truly divine life for his kind. Froebel, after spending two years with Pestalozzi, concluded that our greatest educators, even Pestalozzi himself, appear too crudely, empirically, capriciously, and therefore unscientifically, to allow themselves to be led away from nature's laws; they do not appear, indeed, to recognize, honor, and cultivate the divinity of science."

Froebel's great work was to point out the true significance of a *child's play* in the education of the race; to indicate a method by which the *joy in producing*, which forms so large a part of the child's happiness, may be carried forward into the industries of mature years, deepened and ennobled by a knowledge of industrial relations; by experience of the value of industrial products, and, above all, by consciousness of duty done in the contribution made to human comfort and well-being.

According to Froebel's most faithful disciple and interpreter, the Baroness von Bulow, "We yet need minds of equal power which, rethinking Froebel's thought, shall clear up what is obscure and imperfect in his manner of expression, fill up the gaps, and furnish in an intelligible manner the commentaries necessary to carry the whole thought into execution."

The problem of the school needs restatement in such a form that, while it lays fast hold of the best thoughts and experiences of the past, it shall likewise embody the best hopes and aspirations of the present. The following is given as a provisional form of such restatement:

The human being must be considered a physiological unit for purposes of education. Soul-building means brain-building; brain-building means body-building. Every muscle and organ of the body, through appropriate exercise, must be placed in appropriate connection with the brain in order that it may become the appropriate servant of the mind. Every human being thus conceived is to be *industrially educated;* the entire work of the school must be reconstructed upon the basis of an enlarged conception of the word *industry.*

The industrial education to be thus furnished to each individual must consist of the following elements:

1. An industrial disposition which leads to a cheerful, and even happy devotion to some chosen employment.

2. Industrial knowledge, — such general and special knowledge as will put each individual in possession of the best human experience in the direction of his chosen vocation.

3. Industrial power,—such a development of physical, intellectual, and artistic power as will remove, as far as possible, the chances of failure, and by giving a just consciousness of strength, will enable each to work always with the hope and expectation of success.

Taking the best physiological knowledge the age affords under its guidance, the schools are to develop a body capable of enduring all the fatigues and strains which at least the ordinary exigencies of life are likely to bring upon it. Selecting the knowledge it is their duty to give, the schools are to impart this knowledge in accordance with the laws of mental assimilation, as discovered and interpreted by the best students of mental growth, to the end that mental dyspepsia may be avoided, and that the best intellectual conditions may exist for the quick and accurate solution of at least the ordinary problems of life.

Under the guidance of true artistic thought and feeling, the schools must develop such a sense of the beautiful as will enable our people not simply to enjoy the beautiful in the objects about them, but such as will give a *finesse* and finish to whatever work they undertake, whether it be the culture of corn, the making of a dress, the building of a house, or the painting of a picture. Every workman should have, in the largest possible degree, the fine feeling of an artist, while every artist should be recognized as a working-man. Over all this knowledge and these powers a conscience must preside that can say *might* and *might not* so loudly and distinctly that its commands cannot go unheeded. The school thus organized will be the natural outgrowth of Froebel's idea. His plays will be revised and extended beyond the kindergarten. The dramatic instinct of children will thus be utilized to make the children and youth of the public schools thoroughly familiar with the leading thoughts, of the chief industries and the general machinery of commerce and citizenship. These plays can be so varied as to give the best possible discipline in expression through voice and gesture.

The occupations of the kindergarten will be revised and extended, making the expression of thought in material form an important element throughout the whole course of the public school. The ac-

tivities of infancy would thus lead to those of the kindergarten, these to the public schools, and these again to the more special activities of the technical school and university Thus nursery, kindergarten, and public school would be what they ought to be, — a road leading up the base of the mountain of industry and art, thence branching to the various heights of the special industries, each special height having at its base a special school to fit its students for its climbing. The public schools, as thus conceived, would not fit their students for any *special calling*, but would enable each student to choose intelligently the employment for which he is fitted by special taste and power. There would be laid the only possible foundation for intelligent sympathy among the different classes of workers.

The change from one occupation to another, the necessary incident of growing industries, would be greatly facilitated, and intelligent labor would come into full possession of its rich inheritance from the past. This is all to be accomplished not so much by a radical change of the subjects of school-study as by a modification of the materials used in these studies, and by making all the work illustrate and enforce certain great ideas.

It has been the narrow conception of the mission of object lessons, as well as the mechanical methods of giving them, that has made them yield such meagre results. The three R's must ever remain the fundamental studies of the school, but they must be taught not as an end, but as means, — their true place in the life and thought of the world must be shown. If no industrial training goes along with them they are apt, as Miss Nightingale observes, "to give rise to a fourth R,— of *rascaldom*."

Our normal schools and pedagogical departments must train teachers and superintendents, who, through parents' meetings, educational receptions, unions, — through press, platform, and pulpit, can arouse public sentiment, and send abroad the feeling that to train up a child in the way he should go is the noblest and most worthy work to which God can call any human being. For a man to take charge of a system of schools, make out a course of study, impose it upon a whole community, without making an honest and vigorous effort to acquaint the parents with the aims, methods, and results of the schools,—without trying in all earnestness to build into these schools the best hopes and aspirations of the entire community,—is a species of bossism as dangerous to all true progress as political bossism can possibly be.

One great need is a systematic plan for gathering pedagogical statistics, by which every intelligent parent, teacher, citizen can

be converted into an observer, to gather facts to be interpreted by those most competent. This is the only way out of the anarchy at present prevailing in educational thought, and the only method by which a science of education can be built up. Men of wealth have sent expeditions to every part of the earth, have endowed schools for the exploration of every portion of the physical universe; but where is the man or the men who shall first equip a normal school, or pedagogical department in a university, with brains and means for the proper exploration of the human soul in the different stages of its development, so that teacher, minister, and parent can secure all the light that the most patient and skillful investigation can give in their work of building such men and women as the world needs?

MANUAL TRAINING.

BY PROF. C. M. WOODWARD.

"By their fruits ye shall know them. Do men gather grapes of thorns, or figs of thistles."

In a recent address before the Teachers' Association of Missouri, I attempted to show the narrowing, misleading, and deforming influence of our popular system of education. From the day when the children enter school, whether from the nursery, the door-yard, the street, or the kindergarten, they are turned into certain narrow, well-worn paths, bordered by high and well nigh impassable walls. Instead of leading out equally to all parts of the busy working-world, lying on all sides of the temple of learning, these paths conduct to a few portals through which the school-men strive to force all their graduates into the world of active life. If, forsooth, the student-traveler does not choose to enter the portals of the Law, Theology, Medicine, Teaching, or possibly Engineering, he is looked upon as one who has made his journey to no great purpose. He should have deserted the ranks long ago, and now he must needs climb over the walls and find his way as best he can into or through other fields to other gates. I protested strongly against the bad policy and the wrong of taking away from children their right of choice; of leading them without their knowledge or consent away from half the needful occupations of men, and confining their attention to a fractional part of what is their birthright.

The walls that hem them in, I said, were built upon the broad foundations of superstition, prejudice, and pride. The walls themselves are chiefly of *books*,—books in all languages, living and dead; towering worlds of what are to the children dead, meaningless words, which shut out the living and significant world of action, of living issues, and of material things. Who built those walls? Our fathers began them; human slavery, which compelled everything pertaining to labor and industrial life to wear its badge, added greatly to their height; hordes of book-makers, with their omnipresent and cunning agents, are laying new courses every day; and finally, perhaps, most powerful of all in this wall-building are the teachers themselves, who, in their professional zeal and pride, value most highly those things which most clearly distinguish their vocation, and which most separate them from other professions and from the working-world.

It is not my purpose now to dwell upon these points. They have not forced themselves upon me alone, and not unfrequently have they found forcible expression. On the very day that I addressed the State Association at Sweet Springs, Mo., Mr. Charles Francis Adams, Jr., delivered his Phi Beta Kappa oration at Harvard. Some of our thoughts ran surprisingly in the same vein. I deplored the fact that at Harvard I had spent the whole Sophomore year trying to read the orations of Demosthenes, chiefly that upon "The False Legation." So imperfect was my mastery of the language (and yet I was an average scholar) that I could not for myself see that Demosthenes was eloquent,—I learned that from my Greek history. Those orations (which I have looked at but once since, and that was to select a Greek declamation for a boy graduating from my school, and which, of course, no one understood at all,)—those orations had not then, and can never have, one-tenth the interest of Motley's *Dutch Republic*, of which I never heard one word while in college. I also expressed my deep regret that in place of the years spent upon Greek, I had not devoted the time to learning the arts and studying the thoughts of the intelligent working-world of to-day. Said Mr. Adams to the picked scholars of Harvard, referring to his own experience there:

"As a training-place for youth, to enable them to engage to advantage in the actual struggle of life, to fit them to hold their own in it and to carry off the prizes, I must, in all honesty, say that, looking back through the years and recalling the requirements and methods of the ancient institution, I am unable to speak of it with respect. Such training as I got, useful for the struggle, I got after instead of before graduation, and it came hard; while I never have been able, and now, no matter how long I may live, I never shall be able, to overcome some great disadvantages which the superstitions and wrong theories and worse practices of my Alma Mater inflicted upon me. . . .

"The college fitted us for this active, bustling, hard-hitting, many-tongued world, caring nothing for authority and little for the past, but full of its living thought and living issues, in dealing with which there was no man who did not stand in pressing and constant need of every possible preparation as respects knowledge, exactitude, and thoroughness,—the poor old college prepared us to play our parts in this world by compelling us, directly and indirectly, to devote the best part of our school-lives to acquiring a confessedly superficial knowledge of dead languages. . . .

"I shall hold that I was not myself sacrificed wholly in vain, if what I have said here may contribute to so shaping the policy of Harvard that it will not much longer use its prodigious influence toward indirectly closing for its students, as it closed for me, the avenues to modern life and living thought."

Those are brave words, fellow-teachers, and from the bottom of my soul I believe that they are just and true. Neither Mr. Adams nor myself object to the study of the classics. We strive to recognize their place in the world of letters, and we would protect them from the shallow superficiality which is bringing them into disrepute. But we say, let them occupy their proper place and share of attention. Their sphere is special, and should be left to specialists. Let them not crowd out what are to ninety-nine of every hundred more useful, and therefore more valuable work. Mr. Adams refers to Harvard College, but as I said in Saratoga last year, the high schools and academies ape the colleges, and the grammar schools take their cues from the high schools.

"By their fruits ye shall know them." What are the fruits of this narrow system of literary and abstract training? Step out into the world and see. Society is dismembered. On the one hand is the aristocracy of those elaborately taught in the schools, filling to overflowing the so-called intellectual occupations with neither accurate knowledge of, nor sympathy for, those who labor and who form the other class. The fruit of their schooling is their withdrawal from the fields of manual labor under the promise of directive power both over their fellow-men and over the forces of nature. And yet how much excellent material is spoiled thereby! How large a per cent. of our educated people choose their occupations wrongly! How many of them fail either to direct their fellows, or a machine, or themselves successfully, and so eke out a miserable existence,—the drones and agitators of society.

Mr. H. K. Oliver, of Salem, Mass., said, ten years ago: "Our system of education trains boys not to become better craftsmen, but to be unwilling to be put to any kind of craft."

Hon. Edward L. Pierce says: "Our high schools are multiplying the number of young men and women who turn from farm, mechanical and domestic work, and seek employment as clerks and scriveners. As results there is a dearth of men fitted for surveying, mining, road-making, bridge-building, and farming."

Gov. T. T. Crittenden, of Missouri, in a recent message to the Legislature, said: "In our ordinary and more advanced schools the only vocations aimed at, and in which positive interest is aroused, are commerce, buying and selling, banking, reckoning accounts, keeping books, and the so-called learned professions. The ordinary schoolboy gets the idea that it requires no education to be a mechanic, hence he aspires to what is called a higher profession, a higher avocation, and foolishly learns, from vicious sources, to despise both draft and craftsman."

W. H. Riehl, speaking of Germany, says: "Other nations need not envy us the preponderance of the intellectual *proletariat* over the *proletaires* of manual labor. For man more easily becomes diseased from over-study than from the labor of the hands, and it is precisely in the intellectual *proletariat* that there are the most dangerous seeds of disease."

And George Eliot, speaking also of Germany, where the schools occupy either one narrow extreme or the other: "Germany yields more intellectual produce than she can use and pay for."

How many of those who thus go wrong live long enough to understand their errors, and have the strength and independence to acknowledge them?

Let us turn now to the other side, and consider more directly the fruits of manual training. By manual training I do not mean merely the training of the hand and arm. If a school should attempt the very narrow task of doing merely that of teaching the manual details of a particular trade or trades, it would, as Felix Adler says, violate the rights of the children. It would be doing the very thing I have all the while been protesting against. That, or very nearly that, is what is done in the great majority of European trade-schools. They have no place in our American system of education.

The word "manual" must, for the present, be the best word to distinguish that peculiar system of liberal education which recognizes the manual as well as the intellectual. Note distinctly, we do not wish nor propose to neglect nor underrate literary and scientific culture; we strive to include all the elements in just proportion. When the manual elements which are essential to a liberal education are universally accepted and incorporated into American schools, the word "manual" may very properly be dropped.

I use the word "liberal" in its strict sense of "free." No education can be "free" which leaves the child no choice, or which gives a bias against any honorable occupation; which walls up the avenues of approach to any vocation requiring intelligence and skill. A truly liberal education educates equally for all spheres of usefulness; it furnishes the broad foundation on which to build the superstructure of a happy, useful, and successful life. To be sure, this claim has been made for the old education, bnt, as we have seen, the claim is not allowed. The new education has the missing features all supplied. The old education was like a two-legged stool, and of course it lacked stability; the new education stands squarely on three legs, and it is stable on the roughest ground.

It was once my fortune to be a soldier, and the familiar evolutions

of troops often furnish me with suggestive illustrations. One occurs to me now. The education of a boy, with his various faculties and appetites, for the struggle of life, is like preparing a regiment of ten companies for the ordeal of fire in the line of battle. If some of the companies are in good condition, while others are altogether unarmed and undisciplined; if some are dressed up sharply on the guide, while others are straggling miles behind, will the battalion be likely to do its duty? Think you there will be time, when face to face with the enemy, to bring up your undisciplined stragglers and instruct them in the first elements of military discipline?

In a manual training school we endeavor to have every company in its place, every arm in perfect condition, to always dress up on the color-sergeant, and to be ready for the foe at any moment.

I claim as the fruit of manual training when combined, as it always should be, with generous mental and moral training, the following:

1. Larger classes in your grammar and high schools.

2. Greater stability and perfection of character, moral and intellectual.

3. Sounder judgments and more correct estimates of men and things.

4. Better elections in the choice of occupations.

5. Higher spiritual and material success.

6. The elevation of many of the occupations from the realm of brute, unintelligent labor to one requiring and rewarding cultivation and skill.

7. Greater commercial, industrial, and intellectual progress.

8. The solution of the vexed labor-question.

I will briefly touch on these points:

1. Boys will stay in school longer than they do now. This conclusion is based on observation. You know how classes diminish as they approach and pass through the high school. The deserters scale the walls and break for the shelter of active life. The drill is unattractive, and, so far as they can see, of comparatively little value. *The Cleveland Herald* recently gave 2,701 as the number of pupils entering the grammar schools of that city. At the end of the fourth year, when the high school is reached, the number is reduced to 1,151. Here is the great turning-point. The pupils are 14 years old. The question is, Work or school? For more than half the answer is, Work. 545 enter the high school. The number falls to 237 the second year. The third year it is 145, and but 57 appear the last year. Superintendent Hinsdale, in his address last summer before the Ohio Association at Chautauqua, put the attendance thus: "Of 108 pupils

who enter the primary school, 60 complete the primary, 20 finish the grammar, 4 are found in the second year of the high, and 1 graduates from the high school." These figures are for both boys and girls. At the end of the course the boys are only about one-fourth of the whole. In St. Louis, the average age of pupils withdrawing from the public schools is 13½ years. [See my article on "The Age at which Pupils Withdraw from the St. Louis Public Schools," in the *American Journal of Education* for May, 1879.]

Now, from the influence of manual training upon boys, and indirectly upon the parents, I am morally certain that its introduction into the last year of the grammar and into the high schools, would add at least a year to the average term of schooling. Regret it and explain it as much as you like, neither fathers nor sons think the training of the higher classes worth what it would cost to get it. The figures show this conclusively. Add the manual elements, with their freshness and variety, with their delightful shop-exercises, and their healthy intellectual life, and *the boys will stay in school.* I know this to be true. I said to a grammar-principal in St. Louis the other day: "Put a course of training in the use of wood-working tools into your last year, and your eighth-grade class will be crowded with boys from all parts of the city, *who otherwise wouldn't go to school at all.*" He visited and studied our school, and concluded that I was right; and now he has asked the School Board for authority and means to carry out the suggestion.

If Mr. Seaver opens a public manual-training school in Boston for 300 boys, he will have 1,000 applications for admission during the three years he is organizing the complete school. Will this increase the cost of schools? Of course it will, but a good education always costs, and the money will be well invested, and those who now grumble at the school-tax will be silent.

2. Stability and perfection of character. Prof. Felix Adler has pointed out, with great force and elegance, the influence of the exercises of the shop upon the formation of character. This influence, he holds, will be "nothing short of revolutionary, inasmuch as it will help to overthrow many of the impure conceptions that prevail at the present day." (*Princeton Review*, March, 1883, page 149.) The tasks we set are not to be judged by commercial standards; the articles we make are not to be sold; they have no pecuniary value; they are mere typical forms; their worth consists only in being true, or in being beautiful, as the case may be.

"A habit is thus formed of judging things in general, according to their intrinsic rather than their superficial qualities. Gradually, and almost in-

sensibly, the analogy of the work performed on outward objects will be applied to inward experience. A delicate sensibility to true and harmonious relations will be engendered. The pupil can be taught that, in the world of thought, and feeling, too, truth and harmony of relation are the sole ends to be sought. He can be exhorted to undergo similar toil, to be prepared for similar failures and disappointments, in order to realize at last something of the same inward perfection, which is to be his only and all-sufficient reward. Thus, while he is shaping the typical objects which the instructor proposes to him as a task; while he pores silently, persistently, and lovingly over these objects, reaching success by dint of gradual approximation, he is at the same time shaping his own character, and a tendency of mind is created from which will eventually result the loftiest and purest morality."

But I am met here by such excellent men as Superintendent Hinsdale, of Cleveland, with the objection that I am aiming at an impossibility. That if I attempt to round out education by the introduction of manual training, to develop the creative or executive side, I shall certainly curtail it of elements more valuable still. That the educational cup is now full; and that if I pour in my gross material notions on one side, some of the most precious intellectual fluid will certainly flow out on the other.

Now I deny that the introduction of manual training does of necessity force out any essential feature of mental and moral culture. The cup may be, and probably is, full to overflowing, but it is a shriveled and one sided cup. It is as sensitive and active in its own defence as are the walls of the stomach, which, when overfed with ill-assorted food, contracts, rebels, and overflows, but which expands and readily digests generous rations of a various diet. The figure is not too strong. Did you ever see one whose mind was nauseated with spelling-books, lexicons, and grammars, and an endless hash of words and verbal definitions? And did you, in such a case, call in the two doctors, Johann Pestalozzi and Frederich Froebel? And did you watch the magic influence of a diet of *things* prescribed by the former, and the effect of a little vigorous practice in *doing*, in the place of *talking*, under the direction of the latter?

The students of a well-conducted manual training-school are intellectually as active and vigorous as in any high school. Nay, more, I claim, and I have had good opportunity to observe the facts, that even on the intellectual side the manual-training boy has a decided advantage. I have been in charge of both kinds of school, and I know whereof I speak. The education of the hand is the means of more completely and efficaciously educating the brain. Such is, also, the conclusion of Felix Adler. And Mr. Charles G. Leland says:

"The boy or girl who learns to design patterns, and work them out, is not only prepared by so doing for some more serious occupation, but also becomes cleverer intellectually. If we take two boys or girls of the same age and of the same brain-power, and give them the same book-studies, but allow one to occupy part of his leisure in learning to draw and work brass, while the other spends an equal amount of time in aimless amusement, it will be found, at the end of a year or two, that the former is by far the cleverer of the two."

I would go a step further than Mr. Leland. When the limit of sharp attention and lively interest is reached on any subject, then you have reached the limit of profitable study. If you can hold the attention of a class but ten minutes, it is worse than a waste of time to make the exercise fifteen. The weary intellects roll themselves up in self-defence, and suffer the pelting as patiently as they can, but the memory of that hour of torment lingers and throws its dreadful shadow over the exercise as it comes up again on the morrow; and how automatically, as these over-taught children take their places again, do they begin to roll themselves up into an attitude of mental stupidity! Intellectnal growth is not to be gauged by the length or number of the daily recitations. I firmly believe that in most of our schools there is too much sameness and monotony; too much intellectual weariness and consequent torpor. Hence, if we abridge somewhat the hours given to books, and introduce exercises of a widely different character, the result is a positive intellectual gain. There is plenty of time if you will but use it aright. Throw into the fire those modern instruments of mental torture, — the spelling and defining books. Banish English grammar, and confine to reasonable limits geography and word-analysis. Take mathematics, literature, science, and art, in just proportion, and you will have time enough for drawing, and the study of tools and mechanical methods.

Upon the question of the intellectual effect of manual training, I beg to quote a few words from a report I read on the day when our first class graduated in June:

"Our exhibition to-day is not limited to a display of drawings, shop-work, and manual skill; we have had recitations in algebra, geometry, natural philosophy, chemistry, Latin, history, and English composition. In thus arranging our program, I have recognized the fact that nearly all persons admit the entire practicability and reasonable success of all the manual features of our school. The theory and the use of tools is as readily taught as arithmetic or Latin. But the question has remained in many minds, particularly among teachers: 'Do the pupils of a manual-training school prosecute ordinary school-work with an interest and success equal to that

observed in other schools?' They ask: 'Does not the interest which these boys manifestly take in their tool-work, in fact and of necessity, diminish their interest in and love for their books?' This is a natural inquiry, and some of our shrewdest visitors of late spent considerable time in our recitation-rooms searching for an answer to this question. Those of you who have listened to recitations in this school may be prepared with an answer. The testimony of our teachers, some of whom have had several years' experience in other schools, is very pertinent here. They all say that these boys do better work than do boys of the same grade without the stimulus of the manual training.

"My own conclusion, based upon the observation of the influence of manual education for at least eight years, — (for we had manual training with the students of our polytechnic school of Washington University, St. Louis, several years before the school was in existence),—my conclusion is that not only does our workshop not detract from the interest boys take in books, but it stimulates and increases it, either directly or indirectly. In mathematics, physics, mechanics, and chemistry, the help is direct and positive. Note, for instance, the mental arithmetic involved in the execution of a pattern from a working-drawing. No one can learn from a book the true force of technical terms or definitions, nor the properties of materials. The obscurities of the text-books (often doubly obscure from the lack of proper training on the part of the author) vanish before the steady gaze of a boy whose hands and eyes have assisted in the building of mental images. No classes in physics or chemistry were ever so ready as ours to help illustrate their text-books.

"Then, on the literary side, the habit of clear-headedness and exactness in regard to the minor details of a subject, which is absolutely essential in a shop, stretches with its wholesome influence into their study of words and the structure of language. As Felix Adler says, the doing of one thing well is the beginning of doing all things well. I am a thorough disbeliever in the doctrine that it is educationally useful to commit to memory words which are not understood. The memory has its abundant uses, and should be cultivated; but when it usurps the place of the understanding, when it insidiously beguiles the mind into the habit of accepting the images of words for the images of the things the words ought to recall, then the memory becomes a positive hindrance to intellectual development. The influence of manual training, when associated, as it is here, with mental culture, is intellectually and morally wholesome."

Dr. S. S. Laws, president of the University of Missouri, in a recent public statement, said that the learning of a trade was incompatible with the attainment of high mental cultivation. For, said he, when physical exercise becomes toil, there is a drain on the strength which must be recuperated before either mental or physical effort can be made again to advantage.

Now he was thinking of hard, wearisome toil, like that of the day-laborer with his ten hours of hard work. And on that basis he is of course entirely correct; but his remarks have no application to the students of a manual-training school. Our boys are never weary, and in their estimation the shop-hours are too short. The effect is like that of agreeable, judicious exercise, and the mental effect is positively good. From my own experience, I know the value of interesting exercise. By a daily row of an hour's length I am made capable of more and better intellectual labor; but to be a waterman and toil at the oar would unfit me for anything but sleep.

I confidently reassert my claim, that judicious manual training,— *training*, mark you, — conduces to perfection of mental and moral character. The finest fruit of all education is character; and the more complete and symmetrical, the more perfectly balanced the education, the better the fruit. Does any one ask for fuller details of our methods of instruction? I must not dwell upon them here: they are fully stated in our Fourth Prospectus, which may be had for the asking.

3. My third division of the fruit almost goes without saying. Men of sound judgment, who correctly estimate men and things, are said to possess common sense. We aim to cultivate that kind of fruit. Boys who put every theory to the practical test, who probe and gauge every statement and appliance, with whom authority and tradition, the bane of too much classics, have little influence, and who, therefore, have some conception of the proper perspective of human progress and human history, are apt to focus correctly upon the world and society of-today.

4. My next point, the Choice of Occupation, is one of the greatest importance, because out of it are the issues of life. An error here is often fatal. But to choose without knowledge is to draw as in a lottery, and when boys know neither themselves nor the world in which they are to live, it is at least an even chance that the square plug gets into the round hole.

Parents sometimes complain that their sons do not have a decided taste for a particular kind of work, and a wish to follow a particular kind of vocation. As a rule these complaints are very unreasonable. How can one choose wisely when he knows so little? Allow me to quote a few words from our catalogue:

"It is confidently believed that the developments of this school will prevent those serious errors in the choice of a vocation, which often prove fatal to the fondest hopes. It is not assumed that every boy who enters this school is to be a mechanic. Some will find that they have no taste for

manual arts, and will turn into other paths,—law, medicine, or literature. Some who develop both natural skill and strong intellectual powers will push on through the polytechnic school into the professional life as engineers and scientists. Others will find their greatest usefulness, as well as highest happiness, in some branch of mechanical work, into which they will readily step when they leave school. All will gain intellectually by their experience in contact with things. The grand result will be an increasing interest in manufacturing pursuits, more intelligent mechanics, more sucful manufacturers, better lawyers, more skillful physicians, and more useful citizens."

Will it be to the point if I tell you what our graduates have chosen to do? The result of their choice lies beyond our knowledge in the future, but you may wish to know what, after three years with us, they wish to do. Will it tell against, or for the value of, the school if I say that more than half the class wish to begin life with some form of manual labor, as mechanics or draughtsmen? Does it make for, or against, the system if I say that out of twenty-nine graduates eleven will continue their studies in the higher department of the polytechnic school with a view to becoming finished engineers? Six or seven wish to enter shops and become thorough machinists, several would become architects, one an engraver, one a blacksmith, one a bricklayer and builder, one a stock-raiser, one a dealer in real estate, and one, about the ablest member of the class, is to be a farmer. All had been taught the principles of book-keeping, yet not one wished to be a book-keeper or a clerk. All are willing and able to work.

5. Correct choice brings success in all the elements of a manly career. The man who choses correctly is happy in his work; his labor blesses and enriches both society and himself. Success does not imply wealth, but it does imply competence. It implies the making the most of one's self, according to capacity.

We hear much, particularly from our friend Dr. Harris, of directive intelligence as a great end, or a means to a great end. But he who would successfully direct the labor of other men must first learn the art of successful labor himself; and he who would direct a machine properly must understand the principles of its construction, and be personally skilled in the arts of preservation and repair. Mr. Harris, therefore, tells but a half-truth when he says that [EDUCATION for May–June, 1883] "the practical education is not an education of the hand to skill, but of the brain to directive intelligence," and the connection in which this is said contains something rather disparaging to manual labor. I do not claim to fully understand him, and I may be in error, so you shall judge for yourselves. He says:

"The new discovery (the invention of a new tool) will make the trade learned to-day, after a long and tedious apprenticeship, useless to-morrow. The practical education, therefore, is not an education of the hand to skill, but of the brain to directive intelligence. The educated man can learn to direct a new machine in three weeks, while *it requires three years to learn a new manual labor.*"

This last sentence is not clear to me. As to directive intelligence, I respectively submit the following as a substitute for the dictum of Mr. Harris:

"The practical education is, therefore, an education of the hands to skill and of the brain to intelligence. The combination will give the highest directive power."

This matter of directing a machine reminds me of a story told of Boston, over twenty years ago, in the *Massachusetts Teacher.* It was reported at the Hub that in one of the great cities of the West an establishment had succeeded in making a steam fire-engine of great efficiency. (Those Western cities have a way of taking the lead sometimes.) So Boston ordered an engine, taking a guarantee that it should work so and so. The machine arrived, and was exhibited by its makers. Its performance was marvelous, and altogether satisfactory; so it was accepted, paid for, and the makers went home. A picked crew of active Boston boys was placed in charge of the newcomer, and people almost longed for a big fire that they might witness its sudden extinguishment. The big fire came and so did the machine, but the water failed to rise to the exigency of the occasion. It hissed and foamed and screamed, but threw no water. It was a great disappointment. The next day it was sent to a shop and overhauled. The next fire it failed again. The city fathers then turned round and sued the makers for selling them a machine that wouldn't go. The maker came on to defend himself. Said he: "Gentlemen of Boston, that machine was all we claimed for it. It was made by the most skillful workmen, and, in their hands, it worked to perfection, as you yourselves saw. The men you placed over it were without skill, and you sent it to a locomotive-shop, where they don't know what fine workmanship is. Put the machine in proper hands and it will redeem itself. What you evidently need here in Boston is *directive intelligence.*"

6 and 7. I claim next, as fruit of the introduction of manual education, the elevation in honor and respect of the manual occupations of men. A brute can exert brute strength; to man alone is it given to invent and use tools; hence man subdues nature and builds art

through the instrumentality of tools. Says Carlyle: "Nowhere do you find him without tools; without tools he is nothing; with tools he is all." To carry a hod one needs only the muscles of a brute. To devise and build the light engine, which, under the direction of a single intelligent master-spirit, shall lift the burden of a hundred men, requires human intelligence and human skill. So the hewers of wood and drawers of water are in this age of invention replaced by planing-mills, and water-works requiring some of the most elaborate embodiments of thought and skill. Can you stand beside the modern drawer of water, the mighty engine that day and night pumps from the Father of Waters the abundant supply of a hundred thousand St. Louis homes, and not bow before the evidence of "cultured minds and skillful hands" written in blazing characters all over the vast machinery?

In like manner every occupation becomes ennobled by the transforming influence of thought and skill.

The farmer of old yoked his wife with his cow, and together they dragged the clumsy plow or transported the scanty harvest. Down to fifty years ago the life of a farmer was associated in all minds with unceasing stupefying toil. What will it be when every farmer's son is properly educated and trained? Farming is rapidly becoming a matter of horse-power, steam-power, and machinery. Who, then, shall follow the farm with honor, pleasure, and success? Evidently only he whose cultivated mind and trained hand makes him a master of the tools he must use. With his bench and sharp-edged tools, with his anvil and his forge, his lathe and his tap, he will "direct" his farm-machinery with unparalleled efficiency.

Do not suppose, as some appear to do, that the continued invention of tools will diminish the demand for skilled labor,—for, on the contrary, it will increase it. Said Mr. William Mather, of Manchester, England, to a Philadelphia reporter a few days ago, "The higher the development of mechanical contrivances to reduce merely manual labor, the greater in other directions will be the demand for a finer skill and mechanical knowledge." In general, whenever in the progress of the arts an occupation involves the skillful application of scientific principles; when its instrumentalities are the products of close observation, logical thought, and manual skill, the dignity and attractiveness of the occupation is greatly increased.

Manual exercises, which are at the same time intellectual exercises, are highly attractive to healthy boys. If you doubt this, go into the shops of a manual-training school and see for yourselves. Go, for instance, into our forging-shop, where metals are wrought through

the agency of heat. A score of young Vulcans, bare-armed, leather-aproned, with many a drop of honest sweat and other trademarks of toil, stand up to their anvils with an unconscious earnestness which shows how much they enjoy their work. What are they doing? They are using brains and hands. They are studying definitions. They are looking out in the only dictionary which really defines the meaning of such words as "iron," "steel," "welding," "tempering," "upsetting," "chilling," etc. And in the shop where metals are wrought cold (which, for want of a better name, we call our machine-shop), every new exercise is like a delightful trip into a new field of thought and investigation. Every exercise, if properly conducted, is both mental and manual. Every tool used and every process followed has its history, its genesis, and its evolution.

I cannot expect you all to sympathize with me fully here. We teachers have been more given to studying the derivation of words than of tools, though the latter are full of the thoughts that words are inadequate to express.

I have been speaking of the shops of the manual-training school, not of the ordinary factory. In the latter everything is reduced as much as possible to a dull routine. Intellectual life and activity is not aimed at. The sole object of the factory is the production of articles for the market. In a manual-training school, on the other hand, everything is for the benefit of the boy; he is the most important thing in the shop; *he is the material to be finished.* Such boys leave the school with no suspicion that labor is a curse; that a pair of overalls and a hard hand are things to be ashamed of. They have been taught to use their brains and hands together. They will find that in the world that is a thing too rarely done.

These active, thinking boys, the products of the new education, are going to redeem the world. Through them the age is to lose nothing of its high intellectual life; it will rather gain from its broader foundation. Through their aid such an age of invention as we have never seen will surely come. Colonel Jacobsôn, of Chicago, says: "When all our boys shall be educated in manual-training schools, the inventive genius of the country will be stimulated beyond all conception. The skill engendered will be a protection to home industry such as the most radical protectionist has never yet dreamed of. It will put an end to all foreign competion in American markets."

This brings me to, and sufficiently covers, my seventh point of commercial and industrial progress.

8. Finally, I claim that the manual training school furnishes the solution of the problem of labor *vs.* capital. The new education

gives more complete development, versatility, and adaptability to circumstance. No liberally trained workman can be a slave to a method, or dependent upon the demand for a particular article or kind of labor. With every new tool and new process the cultivated artisan rises to new spheres of usefulness and to new dignity.

In earlier times, when the day-laborer was little better than a machine, with no freedom or amplitude, almost helpless and useless away from his crank, progress was well typified by a ruthless car, which, with most unequal and cruel pressure, ground to powder the unfortunates under its wheels, who had no elasticity, no power of escape.

When the new education shall have fully come, progress will be better represented by the ship of State, which rests gently and gracefully upon all, without inequality or oppression. Rigidity has given place to fluidity. The elements yield, and do not break. Thus, without friction or oppression, and hence without bitterness and strife, shall our progress be made. The sense of hardship and wrong will never come, and bloody riots will cease when workmen have such mechanical culture that the invention of a new tool, a grand labor-saving machine, only adds new power and dignity to their skillful hands.

Since writing this, I clipped an item from the JOURNAL OF EDUCATION which bears upon two or three of the points I have tried to make. They seem to have adopted in France what I will venture to call the plan of the American Manual Training School. I quote:

"On Thursday, May 3d, Jules Ferry assisted in laying the corner-stone of a school at Vierzon, whose object is the training of artisans. The doctrine now so strongly advocated by his party,—namely, that all social disturbance may find its corrective in education,—was fully expressed in his address. Caste, he said, would vanish when tools were found in schools alongside of maps and books; the nobleness of manual labor would be perceived, and concord would spread. The principles common to all handicraft would be taught, so that boys would be able with full knowledge to choose their vocation. Such schools would tend to root out anarchist passions founded on ignorance, to elucidate social problems, to reconcile the masses to natural laws, and to prepare the Nation to meet foreign competition."

Such are some of the fruits of the new education when perfectly applied. We cannot expect it to spring full-armed from any one's head. It will be a matter of growth. We must see to it that we make few mistakes.

A word of warning comes to me at this late moment, that our results in St. Louis will be looked upon with suspicion, for the reason that our boys are picked boys, of more than average zeal and ability. I do not think the allegation is true. At first the boys were largely self-selected as fond of tools. As generally, however, they were supposed to be not fond of books. Later the boys have come for the breadth of training they are to get; for their health, because they wouldn't go anywhere else. I think them of about average ability.

You will observe that I have said nothing of the manual training girls should have. Girls should have manual training as well as boys, and half the arguments apply equally to both. We have no school which has attempted much in this direction that I know of, except Professor Adler's school in New York, of which Mr. Bamberger is principal. The subject is full of interest, but I have no time to dwell upon it.

Fellow-teachers, do not close your eyes to the truth because it shows that we have been in the wrong. Do not suppose that because our schools have done and are doing great and glorious work, they have not their short-comings. If they are to be improved, the changes are to be wrought by us. The schools are in our hands. Let us be frank and open-minded. Let us not sacrifice the ninety-nine who do not complete our elaborate course of study to the interests of the single one who does. Let us not sneer at the training which enables one the more readily to earn a good living in the world, and then lay great stress upon a training which only the children of those who have earned good livings can afford to take.

Let us lay aside superstition and a morbid devotion to what is dead and gone, and consecrate ourselves anew to the salvation of the present and the future. To draw a figure from George Eliot: "Do not suppose that the sun will go backward because you insist upon turning back the hands of your clock."

NOTES ON THE ORIGIN OF THE ITALIAN LANGUAGE.

BY W. C. WILDE.

The language of the Aborigines, as they are designated, in the earliest accounts that we have of them,—the conquerors of Latium, and ancestors of the Latins,—there is the strongest evidence to show was not Greek, but, like the Greek, derived from the Sanscrit itself. When we first hear of the Italian peninsula it was held by the Latins, Sabines, Umbrians, and Oscans, or, as they were sometimes called, Sabellians. Of the first two languages very little remains; both Umbrian and Oscan inscriptions are numerous. In the Engubine tables some of the declensions of the nouns have been distinctly made out. Here we have *populur* and *asa*, answering to *populus* and *ara* of the Latin, the inflections of which run nearly with the Sanscrit. The Umbrian and Sanscrit numerals closely resemble each other; the Umbrian *desen* (ten) and the Sanscrit *da'san* are almost identical. In the pronouns a still greater affinity appears. The second person singular, accusative, of the personal pronoun in the Umbrian ends in *m*. Thus, of *tio* or *tui* we have *tiom* or *tiam*,—almost the Sanscrit *tuâm*, which answers to *te* of the Latin, and σε of the Greek.

The language introduced into Rome by its founders and first inhabitants was, in all probability, one of the dialects of Latium. After Rome became a place of some consequence, enough of this language remained to show that its parentage was very strongly Umbrian. Take the following: The verb *esse*, under one form or other, appears a number of times in the Engubine tables. Besides *erunt*, exactly the Latin form, we have *erirunt*, *erihunt*, *erasunt*. The form last given is probably the most ancient of all,—it is certainly the most curious. It would show that the future of the Umbrian verb *esse* is really an analytic tense. Here *era* is part of the verb, and *sunt* would appear to be the third person plural, indicative,—afterwards lost,—of the radical *su*, in Sanscrit *bhu* (to be). The same observation holds good in regard to the Latin future, the Sanscrit having a future, formed precisely in the same way. Here, then, we have a most striking analogy between the Sanscrit, Umbrian, and Latin, and all to be found in a single verb.

The resemblance between the Latin and Sanscrit pronouns is some-

thing quite as remarkable. In the early Latin inscriptions we meet with *eom*, equivalent to *illum cum*, and the accusative plural *eos*, answering to *illos eos*. These two accusatives would infer a nominative singular, which must have been *so* or *se*, almost identical with the Sanscrit *sa*. Again, there is in the Sanscrit an adverbial form to pronominal adjectives; viz., the suffix *tha*. Thus, of *sarva* (all) we have *sarva tha* (in every manner). From *anya* (other) *anya-tha* (otherwise) is formed. Now the same form exists in the ancient Latin. Here we see *aliuta* (otherwise) formed in the same manner from *alius*. It is exactly the same formula, applied to the same word, with the same effect precisely.

Now, from all these facts, it would seem clearly established, first, that the ancient language of Latium,—whether Umbrian, Sabine, or Oscan, — bore the strongest affinity to the Sanscrit; second, that in the most ancient monuments that we have of it, even there, it shows the clearest evidence of decay. That disintegration in the Latin, too, began a great way back, also appears in its earliest inscriptions. This is first observable in the frequent use of the prepositions. Those most habitually used were *in* or *endo*, *af* or *ab*, *de*, *cum*. Of course, with their use, the inflections rapidly disappeared. The first, no doubt, to go were those whose sounds were least perceptible, and those the suppression of which would render the language more facile, and its use more expeditious. The sign of the singular masculine (*s*) was one of the first letters to disappear. Even the poets themselves, when the language first attempted to be literary, wrote indifferently *bonu* or *bonus*. But there were other terminals besides quite as transient. These were the terminations in *m*. For example, the nominative singular of the neuter, the genitive plural, and the accusative singular. In the laws of the Twelve Tables the following sentence occurs: *Qui im vinctom habebit*, — that is to say, *Qui sum vinxerit*. Even in the poems of Nævius and Ennius we see *fratri*, *patri* used in place of *fratus* and *patris*. In a *Senatus Consultus de Bacchanalibus* the same disintegration may be noticed, — only in a manner more striking, however. Here *velle* is found as many as eight times as an auxiliary, assisting in the declension of other verbs apparently too weak to get along alone. To these other corruptions were added in the language of the camp (*castrense verbum*), and military expressions (*militaris sermo*) which teemed with barbarisms. The Italian word *guerra* intruded in the place of the Latin *bellum*, no doubt, was one of these.

Indeed, quite a vocabulary of these ancient Latin words may be picked up in our different Latin classics or early ecclesiastical

writers. *Brodium* we find in St. Gaudentius; *testa*, with the signification of *capo*, in Ausonius; *camesia* is recorded by St. Gerolomus; *torta* is to be found in the Vulgate; *cribellare* in Palladium; *bramosus, grossus, bucca* in St. Zenone; *minare* in Apulius,—whence the Italian *minare*. *Nanus* is mentioned by Gelius; *letamen* is used by Pliny; *jornus* and *tonitrus* appear in Seneca; also, *retornare, putilla, puta, strata*, are frequently to be met with in early Latin writers. The cultivated classes of Rome would use *esse, hyems, minae, pecutere;* the lowest characters in Plautus say *essere, vernus, minacia, batuere. Bellus* and *russus*, which we find in Catullus; and *caballus*, to be met with in Horace, were used by the plebeian to express *pulcher rubens*, and *equus*. Now all of these words were simply fragments of the ancient tongue of Italy, which afterward became modern Italian. It is certainly curious to observe, even, while they seemed to court corruption, in the form of their language, how fast the people held on to their dear old words. And so, when literary Rome arose, two distinct languages appear. The language of education became the language of the gentry, — the plebeian simply continued the talk of the old tongue.

When the barbarians thundered at the gates of Rome, these two languages still continued to exist,— as they had existed for centuries, side by side,— throughout the length and breadth of the Roman empire. As the invaders spread themselves over the country, the common people must have been brought in daily, hourly contact with them. The gentry, on the other hand, shut themselves up in their castles and strongholds, kept themselves to themselves, and rarely associated with the barbarians. Hence the intruder, if he was inclined to learn the language of the one, had very little opportunity to do so; the patois of the other he heard spoken almost every moment of the day. The accommodating forms of the vulgar speech made it much more easy to be expressed and understood. In the language of the gentry, most of the old inflections remained; and so the talk of the people owed its preservation to its weakness, while the grammatical forms of the language of classical Italy was the very cause of its decay.

Let us see what was the Latin of Italy in the *Carta plenariæ securitatis*, dated in the thirty-eighth year of Justinian. This, be it remembered, was only forty-five years after the death of Theodoric, the first of the Italian Gothic kings. Here we have an Italian vocabulary, Italian idiomatic phrases, Italian rules and construction, diametrically opposed to those of the Latin. Again, in this document prepositions are everywhere to be met with, fixing the signs of the case. Further,

we notice the employment of particles in the ablative absolute, singular, although preceded by nouns in the plural. Take the following extraordinary phrases: Arcas olearias duas valente siliqua una, and Casali Petroniano, fundi Saviliano. Here is a more extended quotation: "Item notitia quod accipit supra scriptus Gratianus de domus quae sunt in diversis territoriis, et ex domo quae est ad Sanctæ Agathæ Rav. secundum fidem documenti, uncias duas ex domo quae est post basilica Sancti Victoris Rav. secundum fidem donationis; uncias quatuor ex casa qui appelatur Casa-Nova Rav, territ secundum fidem donationis uncias quatuor ex fundi Saviliano, quod obvenit per donatione Gunderit uncias duas ex casale Petroniano," etc. Now all of this long extract might be translated into modern Italian without changing the position of a single word.

Among the curious documents that have reached down to our times is the Lombard code of laws. Let us see how it reads. In the enactments of Lutpraud, promulgated A. D. 724, we have the following; "Non reputetur culpa ad proprium dominum." What is that but Italian? "Non sia imputata la colpa al propio padrone?" Take this: "Veruntamen non occidatur, nec si scematio corporis fiat." Nothing more this but nondimeno non uccisa fia, ni lei scematio di corpo fia. Again the following occurs: "Fit traditus in manus de parentibus ipsius mulieris, nam non in manu mariti sui," which in Italian would be, Sia tradito in mani de parenti delli moglie stessu non in mano del suo marito."

In one of these laws we find *habeo* as an auxiliary used precisely in the same manner as may be noticed in the laws of the twelve tables quoted before, and exactly as may be seen in some of the Neolatin languages to-day. In another of these acts we have: "Hæc autem rei veritas, pervenit ad nos, quod quidem homo diabolo instigante dixisset ad servum alienum. Veni et occide dominum tuum et ego tibi *habeo facere* bonitatem quam volueris." The preamble goes on to say: "Feri eam et adhuc, nam si non faceris, ego te *ferire habeo*."

Certain notarial acts of this period, published by the learned Muratori, it would be impossible to fully comprehend without some knowledge of the Italian. Take the following, with dates attached: "De uno latere corre via publica, et de alium latere est terrula Pesinnali plus menus modiorum dua," etc. (*Antiq. it med. ævi, t. iii., A.* 730). "Usufructu de ipsas res et filio aut filia de conjuge mea Alderada abuero et ipsi sic persolvo in ipsa ecclesia . . . . et si ipsa conjuge super me vixere et lecto custodierit, avea medietate ipso usufructum" (*Id., A.* 763). "Persolvere debeamus tres urnas de vino, et uno porco tremesiale et uno berbice, similiter valente uno tre-

misse" (*Id., A.* 776). The Italian of the last paper quoted is particularly to be noticed. We meet here the article *uno* precisely as it would be used to-day. In a donation cited by Muratori (*Antiq. et dess, xxxi.*), Charlemagne cedes to the church of Saint Anastesius in Sienna: "La terra di Ansidonia." Here we notice not only the definite article *la*, but an entire Italian sentence, exactly as it would be expressed now.

There is a curious manuscript of the VIIIth century, entitled "Compositiones adtingenda musiva, pellas et ad deaurendum ferrum," etc., to be found in one of the libraries of Lucca. This Muratori has inserted in his twenty-fourth dissertation, with the following remark: "Nusquam memini me videre monumentum serae antiquitates italicae vulgaris linguae frustulis tam saepe immixtum; *i. e.*, ejicis, at refridet, secundo quod, pro secundo che; cuse ipsas pellas pro cuci le stesse pelli; laxas desicarre, pro lasci siccare; pone ad battere;" etc.

The following extract from this manuscript may not be uninteresting. Under the head, "De mosibum de argento," we have this sentence: "Mesibum de argento secondo quod superius exposuimus ita omnia facies." In the chapter "De petalo auri" we have the following instructions: "Batte lacmina . . . . . et si una longa fuerit vel curta, per martellam adequator tam de latam quam de longam. De illi,—duas octo petiae fieri debent. Scaldate illo in foco batte, et tene illud cum tenalia ferea, sed tornatur de intro in foras." One more extract, and we will close this part of our subject. In a document of the Xth century, also published by Muratori, we find this passage: "Da piede lo ponte della Liccia et da capite la Castellazzo ex latere la strada e lo Molino e lo Gargalo di Casa Luna, etc. Item damus vobis lo Piano della cerchis."

Now, it must not be forgotten that all this jumble was not intended for Italian, but Latin; not the first trying to express itself in the last, but the Latin trying to express itself in Latin. The vulgar spoken tongue, no doubt, was much more Italian than any of the documents we have given. Indeed it is said, in the reign of the Emperor Mauricius (A. D. 582–662), while a battle was waging, some one called out, "Torna, torna, frater!" and the army took to flight. Now it is evident from this that they must have spoken very good Italian in those days; and it does look as if the whole Roman army understood it.

But what could be more complete in a mixture of language than the extracts we have given above? Here, while we find more Italian than Latin, we have the Latin and Italian words in the same sentence,—the two different forms of declension and conjugation side by side. But was the language of Chaucer any better when the vernac-

ular had already become English? Here we find both the English *I* and the Anglo-Saxon *Ic, of, Gods gifte; of loves* (in the last, both forms in the same word). The use of the article *a*, and sometimes the omission of it, even in his prose, where there was no necessity for omitting it; the use of both the English and Anglo-Saxon future, both forms of the infinitive, etc. Is the language of Chaucer any more intelligible now to the general English reader?—nay, is it as intelligible as the Italian-Latin we have just been quoting would be to any Italian to-day? We doubt it.

In 1822, Mr. S. W. Singer edited the works of Chaucer. The first line of the works,—for the "Canterbury Tales" always come first,—runs, as everybody knows, this wise:

"When Aprill with his showeres sote."

Now Mr. Singer, in the vocabulary attached to the works, says *sote* is a Saxon noun, and translates it *soot*. Could any ordinary English reader, unaided and unassisted, do any better than this, now?

It must be noticed in the extracts we have given of this Latin about to become Italian, that the prepositions *in, de, con*, appear to have a great deal to do, and that the inflections, under their influence, rapidly disappear. Indeed, there seems to be a tendency, as much as possible, to simplify the language. The sign of the Latin masculine nouns (*s*) is one of the first letters to to go. Next comes the substitution of *habeo* as an auxiliary verb; *volo*, likewise, assisting in the same kind offices,—all of which may be seen in the ancient Latin inscriptions long before the classics appeared.

It will also be remembered in these extracts of Latin-Italian, or Italian-Latin,—whatever the language may be considered,—that all the principles of Italian grammar may be noticed. They hold a pretty full vocabulary besides. More may be found in other documents, certainly not more recent than the Xth century,—*e. g.*: "*Unu, quatro, trenta, quaranta, cinquanta, conciare, zappare, viticella, rio, ribariola, mulino, mulinaio, gronda, fontana, prato, pratanella, pantano, pantanello, strata, ambascia scotella capo, cambiare, favellare, causa rocca, botecha.* The origin of some of these words is curious. *Ambacht*, in the Gothic, is a servant. In the low Latin we have *ambaxia, ambactus*, from whence *ambassine*, and our English *ambassador*. But the Italian still preserves in *ambascia* something of the original meaning of the word, by inference, in shortness of breath, the being out of breath, weariness, trouble, distress, anguish.

All of the Neolatin languages are homogeneous in their general character; they only differ in some forms and details, as each completed

its system apart. Those nearest to Rome, it would only be reasonable to suppose, should have the closest resemblance to the Latin and each other; but was it always so? The natal homes of the Italian and Daco-Roman, or Wallachian, were widely divided; and yet the resemblance between them is something wonderful. Why might not that be? The fountain-source from which both sprung was identical. The province of Dacia, in the last days of the Roman empire, was completely cut off from Rome; yet the two languages remained one and the same, none the less.

The truth is, the Daco-Roman, like the modern Italian, came directly from the Roman patois; both were nothing more or less than the common vulgar speech, developed and purified. There can be no doubt that changes were left all over the face of the land, as invasion after invasion swept over it; but the two languages, in all of their most prominent features, remained the same. The barbarian might mar, but he could not make, the tongues of the people,—that had already been done, before he came.

It must be noticed, even in the most superficial comparison of the two, that when the Latin ceased to be the language of Italy, it had lost most in the elimination of its consonants. The middle ones, in all probability, were the first to go. *P* and *c*, when joined with *t*, were likewise rejected. Also *m* preceding *n*,—no doubt to save an effort in pronunciation. As a rule, whenever a consonant occasioned any difficulty, it was suppressed. The Latin diphthongs were replaced by single vowels. In the roots of the verbs of the second and third conjugation, the changes were considerable.

If the substitution of vowels for consonants was most frequent in these changes, there was an intrusion of consonants as well. One of the most curious of all of these intrusions, however, is the *o* in the Latin *vidua*, whereby the word was brought back almost to Sanscrit, in which it appears as *vid'ava*.

L, of the Latin group *pl* and *fl*, was vocalized in the Italian. Instead of *plaga*, *pluvia*, *pluma*, and *flamma* of the Latin, the Italian has *piaga*, *piova*, or *pioggia*, *piuma*, and *fiamma*.

The hardest struggle the language seems to have had was for its pronunciation. Sometimes the rougher, northern elements would win, but it was not often. One evidence of a triumph appears in the *tch* pronunciation of *ciclo* and *cibo*. To northern influence the language owes the introduction of the letter *d* before *g* when the last is followed by *e* or *i*, as in *gli*. The same influence is apparent in certain verbs. Not infrequently we find the Teutonic hard *g* intruded between *n* and the final *o* of words, as, *pongo*, *rimango*, *tango*; or the *g* is doubled, as, *seggo*, *traggo*, etc.

The parent of the Italian indefinite article *uno* was the Latin numeral *unus*. In the most ancient form of the Latin this was *aino*, which must have been *ai-no* in the primitive Aryan. In the Eugabine tables we have *une–unu*.

The final syllable of *ille*, *illa*, etc., was the source from which the Italian took its definite article. The partitive article *degli* would appear a compound, *dei–de-i*, with the *g* intruded. Where the language got *g* we have already shown. The Gothic *sa*, in the sense of *ille*, *ipse*, of the Latin (αυτος of the Greek), appears only three times in the Bible of Ulphilas: *Sa ïst Hêlias* (Matt. xi. : 14); *sa ïst* (Mark xiv. : 44); and *sah vas Samareitês* (Luke xvii. : 16).

The prepositions used in Italian declensions are taken, with a single exception, from the Latin. These are: *A*, *ad*, *di*, *da*, *con*, *fra*, *in*, *per*, *su*, *tra*, which are known as real prepositions. *Fra* is pure Gothic, from whence our English *from*. This single invader, standing solitary and alone among the natives, looks melancholy indeed. The other Italian prepositions not ranked as real prepositions are Latin adverbs, or compounds of adverbs, prepositions, nouns, and participles. Their dissection would afford some amusement to the curious in such things. *Fuori* is no doubt the Latin adverb *foras; eccetto* comes from *ad excepto; dopo* is possibly a compound of *de* and *postea; adosso*, certainly a compound of *a* and *dorsum; giusta*, Latin adjective *justus; salvo*, also from an adjective *salvus; senza*, from *sine; sotto*, Latin adverb *subter; dietro*, Latin adverb *directe* (with a mischief, and hence, by inference, from behind).

The ancient Italian pronoun of the first person, *eo*, approaches nearer the Latin *ego* than anything that can be found in the Neolatin languages, with a single exception. Both the Italian and Daco-Roman have *io;* but it is a well-known fact that the French in the ninth century used *eo* and *io* for *Je*. In the oaths of 842 we find *Si valvarai eo*, and *si io returnas*.

Ci and *e*, of the Italian personal pronouns of the third person singular, comes from the Sanscrit *ayam* (*e* + *am*) of which it is only a contraction. *Esso* is probably the old form of the Latin pronoun *ipse*, with the *p* elided. In the Eugabine tables we have *isec* and *issoc*, and in Oscan inscriptions, *iseis* *Tu* of the Italian is the Sanscrit pronoun *tvam*, rejecting the suffix *am*.

Questo, in all certainty, comes from the Latin demonstrative *iste*, *ista*, which makes its dative in *isto*. Several of the Italian dialects have preserved it without any modification or change whatever; others, by a retrenchment similar to that effected in *ille*, *illo*,—out of which the Italian *lo* has been made,—have made *sto* and *sta* from *isto*

and *ista*. Documents of the sixth century prove that this change was then in general usage in certain parts of Italy; as in Ravenna, in Rimini, and along the shores of the Adriatic, where these words were used sometimes as articles, and sometimes simply as pronouns.

The Latin being synthetic in form, made its comparisons by suffixes. The Italian, held to be analytic, shows here only some, not all, of the weakness of the Neolatin tongues. The Italian, in its comparisons, is rich with both forms. To express the comparative of *bono*, the Italian has *meglio*, as well as *più bono;* for the comparative of *male*, the Italian has *peggio*, as well as *più male*. The French would appear to be entirely deficient in a superlative for these two words, unless it be proper to say *tres*, or *plus meilleure*, and *plus*, or *tres pire;* while the Italian, in *-simo* and *-ssimo*, has a superlative for everything.

It should be observed that the Latin did not form the first person singular present of its verbs from the oblique cases of the first person of the pronoun, as the Sanscrit, but directly from the nominative *ego*. Thus, *amo* is a contraction of *am-a-o*, which is also a contraction of *am-a-ego*. In the first person of the verb the Italian retains the Latin terminal *o*. The Italian terminal of the second person is *i*. This is no doubt a retention of the old vulgar Latin. We have already noticed this very corruption as far back as the days of Nævius. The French form, at one time, was *tu pars*, *tu dis*, *tu reçois*, etc. The Italian has been more consistent in its old ways. It has entirely rejected the *s*-terminal of the second person singular in all its cases, as well as the *t*-terminations of the third person, of the classic Latin.

Besides the letter-changes already given, there are others, which are most observable in some of the Italian verbs. *B* here takes the place of *v*, and *ss* of *x*. Thus, instead of *amabam* of the Latin, we have *amava* in the Italian imperfect indicative; while *ressero*, the Italian future indicative, answers to *rexerunt* of the Latin.

The preterit of the Sanscrit *b'u*, disengaged of its augment, furnishes the Latin with the inflections of its imperfect indicative. This was *ab'av-a-m*, *ab'av-a-s*, *ab'av-a-t; ab'av-â-ma*, *ab'av-a-ta*, *ab'-av-a-n*. These inflections, all of the Neolatin languages, follow; consequently we find in the Provençal: *ama-va*, *amav-as*, *ama-va; ama-vam*, *ama-vatz*, *ama-van;* in the Spanish, *ama-ba*, *ama-bas*, *amaba, ama-bamos*, *ama-bais*, *ama-ban;* in the Italian, *ama-va*, *ama-vi*, *ama-va, ama-va-mo*, *ama-vate*, *ama-vano*. The perfect-indicative of the Latin verb *sum* was the source from which all the Neolatin verbs took their perfect or past definite. In the Latin we have *fu-i* for *fu-v-i* of the ancient verb *fu-o*, *fu-iste*, *fu-it*, *fu-imus*, *fu-istis*, *fu-erunt* or *fu-ere*.

In the perfect-indicative of *amo* we have *ama-v-i* for *ama-fui*, *am-a-v-isti* for *ama-fu-isti*, *ama-v-it* for *ama-fu-it*, *amav-i-mus* for *ama-fu-imus*, *ama-v-istis* for *ama-fu-istis*, *ama-v-erunt* for *ama-fu-erunt* or *-ere*. So in the Italian we find *vende-i*, *vende-sti*, *vende*, *vende-mmo*, *vende-te*, *vende-zono*.

The formation of the Neolatin future is still more curious. This is made up of the auxiliary verb *ho* and the infinitive of the associated verb, and shows how strong the tendency of the language was to disintegration. Under this singular composition, *amare ho*, *amare hai*, *amare ha*, *amare abbiamo*, *amare avete*, *amare hanno*, becomes *amero*, *amerai*, *amera*, *ameremo*, *amerete*, *ameranno*. This mode of forming the future is found in all of the Neolatin languages except the Wallachian. With particular reference to the Spanish, this is noticed by Antonio di Nebrixia, or Lebrixa, in his "Grammatica sobre la lengua Costellana," in 1492.

In *âse*, one form of the Sanscrit infinitive, we recognize the original of the infinitive of Neolatin verbs; hence *es-se*, *pos-se*, *ama-re*, *mone-re*, etc.

The suffix *-ant*, *-nt*, which occurs in all Aryan languages, is chiefly employed in the formation of the present participle. The Gothic form of the suffix is *-nd*, *-nda*, and this the Italian very nearly approaches in *vende-nd-o*, *serve-nd-o*, *ama-nd o*, etc. In Sanscrit the suffix of the past participle is *-ta* (*-tas*, *tâ*, *-tam*), corresponding to the the Latin *-tus*, *ta -tum*. In the Italian we have *avu-to*, *avû-ta*, *avû-ti*, *avu-te*; *sta-to*, *sta-ta*, *sta-ti*, *sta-te*; *comprâ-to*, *servi-to*, *vendu-to*.

It would seem most proper that these notes upon origin of the Italian language should end here, but a friend asks, "Can the time be fixed exactly when the Italian superseded the Latin, and became entirely and absolutely the language of Italy? We doubt if any such date could be given. As early as the beginning of the XIIIth century the Italian had something of a literature of its own. Two inscriptions have been generally quoted, which, if their dates are correct (and they have been questioned), might place the Italian as pretty well developed in the middle of the XIIth century. One of these, at one time, might have been seen in the Cathedral of Ferrara, and bore date 1135. The other commemorated an event that happened in Tuscany in 1184.

The story goes that the Emperor Frederich, surnamed Barbarossa, in a visit to the Magello, took up his residence with one of the Ubaldini. In a hunt one day, a stag was about escaping, when Ubaldino degli Ubaldini seized it by the horns, and so held it fast until the Emperor came up and killed it. Struck by the boldness of the deed

Frederi:h gave the Ubaldini the horns of the stag as a cognizance, which his family ever afterward bore. The inscription, cut to commemorate this event, was written both in Latin and Italian. The Italian ran thus:

Con lo meo cantare
Dallo vero, vero narrare
Nullo ne diparto.
. . . .
Cacciato da Veltri,
A furore per quindi eltri
Magelliani cespi un Cervo
Per li corni ollo fermato.
Ubaldino Genio anticato
Allo Sacro Imperio Servo
Uco piede ad avaccearmi
Et con li mani aggrapiarmi
Alli corni suoi d'un tracto, etc.

The ecclesiastic writers, in giving an account of the struggle between Victor and Alexander III., tell us that the Roman people who favored the former ran about the street crying, "Papa Vittore S. Pietro l'elegge!" Now this phrase is entirely Italian, and would go to show that something very much like Italian, in 1160, was the spoken language of Rome.

Here is another anecdote: One of the historians of Milan, in relating the debates that occurred at the election of an archbishop, puts this exclamation into the mouths of the populace: "Ecco la stola! Ecco la stola!" Now, as this incident happened beiore 1118, the inference may be drawn that at this time there existed at least a vulgar dialect in Milan which must have been pretty fair Italian. One fact is incontestible: the Italian and Latin, as two separate and distinct languages, already existed in Italy as early as 960. This is shown by the letter of a certain Gunzone, published by Martene and Durand: "Vet: Scriptor ampliss: collectio tom 1, col. 294–295–298."

If we extend our researches still further back,—indeed, as far as the Xth century,—we find even here a considerable number of proper names the elements of which are pure Italian. For example, in Ravenna, in a document bearing date 983, the three following may be seen: Domenico Barbalisciado; Leozoppo; Dominico Tornafolio. In Modena another document exists in which the name of a certain Lambertus appears with the curious cognomen of *Cavinsacco*,—that is, *Capo in sacco*. In Verona, in an act drawn in 985, we see the name *Lupo supla in punio*, i. e., *suffio in pugno*. In the IXth and VIIIth centuries proper names formed from vulgar words are not entirely wanting

in the different acts, only they appear less frequently, Those oftenest seen are really common nouns used as names, which, despite of their Latin terminations, are actually Italian; *e. g.*, *Fertellus*, *Fuscarus*, *Muzuco*, and *Bonella*.

Here we have traced the language up from the first half-formed lisping of the infant to at least the intelligible babble of the child. When Dante was born there was no one common language in Italy; instead, only rude, uncouth dialects existed in every petty State. The Tuscans, to be sure, made the greatest pretensions to supremacy; but these Dante himself rejects, reproaching them for the baseness of their expressions, not less corrupt than their dress. Passing to the left of the Apennines, he treats no less severely the dialects of Ancona, Vicenza, Mantua, Verona, Venice, Pado. He considers the dialect of Bologna simply as the least unworthy,—nothing more.

All of these dialects continued to revolve apart, — each in a little sphere of its own,—as long as they continued to be simply spoken. The poets of Rome created the language of Rome; the poets of Italy created the language of Italy. When the *Divina Comedia* was written the language of Italy was made.

THE FUNCTION OF THE NORMAL SCHOOL.

BY E. C. HEWETT, LL.D.

In this short paper I propose to touch upon a great many points pertaining to Normal Schools, but to discuss none of them extensively. I will rather raise questions and make assertions, — dogmatical, perhaps, but such as have grown out of my observation and experience,—leaving the settlement to others.

No one questions the necessity of schools, both to the rising generation and to the general well-being of society; and few comparatively, in this country at least, question the necessity and usefulness of our great systems of public schools, much as some are disposed to heap criticisms, wise and otherwise, upon them. But, in order to have schools worthy of the name, it is clear that we must have teachers fitted both by nature and by preparation to conduct them. The teachers, in a very true sense, make the schools just what they are, whether good or bad.

What, now, is a normal school? I reply, a school whose purpose it is to prepare candidates for the teacher's office, to enter upon their work. In my opinion, the question whether any given school is entitled to be called a normal school is to be determined by its aim or function rather than by any test applied to its methods or course of study. If its sole purpose is to prepare teachers for their work, if all its operations are carried forward to promote this purpose, it is a normal school. If its aim is other than this, or if the preparation of teachers is only one of several aims, it has no just right to be called a normal school. What rank it shall take among normal schools must be determined, of course, by the character and success of its operations; but these do not determine to what class it shall belong. What shall be admitted to its *curriculum*, how its operations shall be carried forward, what are the methods best adapted to accomplish its ends, — are questions about which normal-school workers will differ; but all should concede its claim to the title, if its work is directed solely to the end I have named.

In many discussions as to the proper work and methods of a normal school, there is one very common and very mischievous oversight. It seems to be taken for granted that there is, or ought to be, some one general pattern to which all normal schools should conform. We often forget that the circumstances of different normal

schools, and the material with which they have to work, vary greatly. A little thought ought to show that the pattern of a normal school best adapted to a city, where all its students have taken the same course of study and have graduated from the same, or similar, high schools, must be very different from the best pattern for a normal school whose students come from all the territory of a large State, with all the various peculiarities pertaining to hundreds of widely separated schools.

Again, the preparation that is best to fit persons to teach in the systematically graded schools of a city must differ very much from that required by persons who are to go out and take charge of schools in the rural districts. It is very plain to my mind that we need different *types* and different *grades* of normal schools. Given the material furnished to any normal school, the length of time for which its pupils can be held for study, and the kinds of schools that they will teach, and these *data* must determine the work of that school. No one school can be, or ought to be, the model for all others.

A normal school ought to do anything and everything which are necessary to fit the given candidates for their given fields. Many of the questions about so-called academic and professional work,—the kind and amount of each, — must be settled by conditions. Given conditions should be regarded, and the voice of experience should be heard. In this way, our normal schools have grown up, — the ideal has been modified by experience ; and so, I think, they must continue, to a great extent, in order to give the best results. It is very easy to particularize points in which our normal schools have not conformed to some theory, or some ideal ; it may be freely admitted that many mistakes have been made, and much crude work has been done ; but, after all, the history of these schools in America is very remarkable, and it is one of which their friends need not be ashamed.

The first State normal school on this side of the Atlantic began in 1839, in the historic town of Lexington, Mass. It was undertaken as an experiment, and in the face of many difficulties and much opposition. Opposition and criticism have continued till to-day ; but, in spite of all, our normal schools have constantly grown, in number, in efficiency, and in the good opinion of the people. Conclusive evidence of the truth of the last statement is found in the fact that so many schools which have no just claim to it are ready to take the name of *normal*. In the early days of these schools it was not so,—the name had no money-value,—it was not worth stealing ; and those who were fairly entitled to it might well regard it a matter of sound financial policy to say nothing about it.

Note, again, that, at the same time that normal schools have been multiplying and growing in popular favor, the whole general subject of education has moved forward to a place in public estimation which it never held before. Are these facts merely coincident? or is there the relation of cause and effect between them? I submit the question confidently to any one competent to judge. The normal school, in some form, has come to be regarded as an essential part of the public-school system; and this is as it ought to be. These schools bear a relation to the life of the community altogether different from that of any other professional schools. The line of argument is this: The education of the young is an interest so vital to the well-being of society that the State must attend to it as a matter of self-preservation; properly prepared teachers are essential to any system of education; experience in this country, and in others, shows that such teachers are not forthcoming in sufficient numbers unless the State make provision for their preparation. Hence, State or municipal normal schools are just as truly and just as legitimately a part of the public-school system as any other part.

There is another reason why the State should render such schools independent of popular patronage for their support. The proper work of a normal school must insist upon such a regard for the elements of instruction, — such a patient and continued labor in the fundamentals, — as no school dependent upon popular patronage for support can afford to insist upon, at least in the present state of opinion on this subject. That school that makes a great show in the *ologies*, the *osophies*, and the *onomies* is the one to which the dollars of the multitude are likely to flow in the fullest current; but it need not be said in this presence that a top-heavy school of this kind is not the one best fitted to prepare our teachers. Only a school in some degree independent of present popular favor can afford to do the work that needs to be done.

Nor must the normal school, supported at public cost, be regarded as in any sense a public charity; it is as far removed from this position as the public school itself, and for the same reason. The State supports the public school for its own good; it should support the normal school because it is essential to the highest success of the public schools. In other words, the normal school demands public suupport as a measure of public economy. The State is spending millions for its public schools. Their one aim is to educate the people for the good of the State. Their efficiency depends upon their teachers. If these are utterly worthless, the whole investment is lost. Just in the ratio that the teachers are made efficient, in that same ratio the investment is secured. To make the teachers thus

efficient, normal schools are established and supported. If, by the normal schools of a State or city, the teaching is improved ten *per cent.*, then the normal school is worth to the public one-tenth of the total amount expended for its public schools. This is the argument for normal schools at public cost; this is the sole reason why the existence of such schools should be demanded. Any benefits that they may confer on individuals are purely incidental.

Reviewing now, briefly, the points on which I have touched, I assert:

1. That good teachers are the great want of our schools,—nor is there likely to be a change in this respect;

2. That any school whose sole purpose is the fitting of teachers for their work is a normal school, and it is proper to confine the name to such only:

3. That, owing to circumstances, no one pattern of a normal school can be best for all,—that such schools ought to be of different types and different grades;

4. That the history of normal schools in this country has fully demonstrated both their necessity and their worth; and that it is fair to claim for them much of the credit for advance in education;

5. That normal schools should be supported at the common charge, because otherwise they will not be founded in sufficient numbers, and because they need to do a work which schools dependent for support upon popular patronage cannot do;

6. That such schools are, in no sense, public charities, but that the public should support them for its own sake, as a wise measure of economy.

Now, turning to the *work* of the normal school, a few words. From what has been said, it will not be expected that I shall try to set forth the kind of work, nor the amount, nor the methods, to which all normal schools should conform. And yet I think there are some fundamental matters in which all normal schools should agree. It has been well said that three kinds of knowledge are essential to one who would teach well: 1st, He should know the nature of the being to be taught; 2d, He should clearly understand the knowledge, the facts, or the subject-matter, to be presented to that being; 3d, He should know the method of bringing knowledge and being together, and the best modes of doing this work. In my opinion no normal school can afford to ignore any one of these three fields of knowledge.

If there is anything that especially marks the drift of recent educational thought more than anything else, it is the study of human nature, particularly in the child. We hear much now-a-days of the

"new" education; but, as I understand it, there is nothing new about it except in the endeavor to become better acquainted with the child's nature and wants, and to have a wise regard for the same in his education. So far as possible, all normal schools should give their pupils a knowledge on these points as full and complete as may be,— nor should they be content to teach what is already known merely, but they should do much to increase the common stock of this kind of knowledge, and to put it in form for practical use.

Mental science, in its relation to pedagogy, must receive more attention than it does at present; but, of course, the knowledge of human nature of which I speak includes much more than mental science in any form. Nor do I believe that it will do to say, as some do, that the acquisition of the knowledge to be taught is wholly foreign to the *idea* of the normal school. I am not much frightened at the cry of "academic" instruction. Whatever may be our theories on this matter, it is certain that, as things now are, the acquisition of the knowledge to be taught must occupy much attention in our normal schools, if we would give the pupils who come to us what they most need. But, more than this, I believe that the subjects to be taught must be reviewed at least, and looked at in a new light by the candidate for the teacher's chair before his knowledge of them is in the most available form for imparting it to learners. I have not time to discuss the question now, — if it were necessary or proper to do so, — but I believe that this work of putting the knowledge of the school-studies into the proper form for the schoolmaster's use is as truly "professional" as any work that he can do. I doubt not that the study of the subjects monopolizes too large a share of the time in many of our normal schools; but, so far as I can learn, the best normal schools in Europe do not proceed upon the plan, sometimes advocated here, that the normal school should demand that all the *matter* of instruction shall be acquired elsewhere.

Of course, no one will dispute that the study of the method and modes of bringing the knowledge to be taught into the most healthful and fruitful relations to the mind of the learner should make up a large part of the work of the normal school. Nor will any thoughtful man deny that the wisest and most careful work needs to be done in the earliest stages. Men in other departments of life fully appreciate the importance of good foundations. It is strange that we are so slow to see the application of the same principle in the work of education.

Once more I say that it seems to me idle to attempt, or to desire, to make this common work of all normal schools take on one type or one form, as the best of all possible types or forms. And yet I think

it very desirable that we should come to a uniform recognition of the underlyiug truths and principles involved in the work. In other words, we need to formulate for our own use, and to give to the world a "body of educational doctrine," or a "schoolmaster's creed," in regard to the fundamentals. If I mistake not, we are making good progress in this respect, but the work is, by no means, done yet; and it is the especial business of workers in normal schools to carry it forward to its completion.

Finally, let me say that the work of any school is very defective, as it seems to me, if it stops with the mere gathering and imparting of facts, of ideas, of knowledge, in these several departments of its work. It is the business of the teacher *to do*. There is but one sure way of gaining the power to do, — that is, by doing. Hence, training, practice, should be found in all the stages of the work of a normal school. In respect to the *work* of the normal schools, then, I assert:

1. That they should make their pupils acquainted with human nature,—in its capacities, tendencies, wants, and limitations, especially as these appear in the life of the child;

2. That the subject-matter of instruction should receive attention to any extent that may be necessary; and that I believe that the *ideal* normal school will not omit it altogether;

3. That the study of method and modes ought to make up a large part of the work of these schools;

4. That, while it would be foolish to attempt uniformity in detail, it is desirable that there be uniformity in adherence to underlying principles, and that a body of educational doctrine should be formulated and disseminated;

5. That the work of training, or practice, should have a prominent place in all our normal schools;

6. And, in addition to what has been said already, that every normal school should awaken in its pupils a genuine enthusiasm respecting the work of teaching, and a true professional feeling, or *esprit de corps*.

Are these assertions of mine true or false? Are there other things equally fundamental which I have overlooked?

How shall we best settle these questions, and others that may arise?

When we clearly see what we want to work out in our schools, how shall we arrive at better modes of working?

How shall we bring the truth that we know before the people so as to do them the most good, and to move them to give us the most assistance in our efforts to bless the coming generations?

MUSIC IN PUBLIC SCHOOLS.

BY H. E. HOLT.

Skill in teaching is yearly becoming more and more appreciated. Great changes and improvements in methods of presentation have been made, but, as in all other branches of study, the success of music in our public schools will depend upon the skill and proficiency of the teacher. No other subject is suffering more in consequence of unskillful teaching than that of music. This will continue to be the case until we realize that a special preparation for this work is absolutely necessary outside of a musical education. Unless we can furnish trained teachers from the musical profession to take charge of this branch of public instruction,—those who understand the true philosophy of teaching, and can direct the regular teachers intelligently in their work,—we shall see the teaching of music pass into the hands of the teaching profession. The public will demand better results than have been obtained, when it is known what can be accomplished. If the results of teaching music in our public schools have not been satisfactory, it becomes us to ascertain the cause and apply the proper remedy. Nearly all attempts to improve the teaching of this subject have been in the direction of simplifying the notation ; devices for making it easy for the learner to acquire a knowledge of the *signs* of musical ideas rather than the ideas themselves are numerous.

The patent note system, where the shape of the note indicates its name ; the letter or tonic sol-fa notation ; also the French or figure notation,—these are all illustrations, showing the direction in which people have been studying to improve the teaching of music. I do not say that these devices have not been useful, but I do say that they have been useful only as crutches for lame teachers. The time has come when we should ascertain the best methods of *presenting* and *naming music itself.* When we do this there will be no difficulty with the notation. Too many teachers fail in getting a clear notion of what teaching music really means. To many teachers of musical instruments it means the teaching of certain signs and characters, and training the pupils to a skillful manipulation of the instrument. To such an extent have we become dependent upon instruments for our musical training, and so stultifying is the effect of having a musical instrument at hand to do our *thinking* for us, that we have be-

come mere imitators of musical instruments. Only those who are positively musical by nature will learn, by playing an instrument, to imagine correctly how a piece of music will sound which they never have heard. There will always be differences of opinion with regard to the *teaching* and *naming* of sounds so long as there are two distinct mental processes by which a knowledge of sounds may be acquired.

To the learner, without the aid of instruments every sound has two names by which it is known,—the relative-name, which is the guide in singing, and the positive-name, used in playing musical instruments. If human beings could be *tuned* like musical instruments, to always give precisely the same pitch regardless of the *relation* of sounds, the relative name might be dispensed with. As this is impossible, we find ourselves obliged to *think* by the relative name, and use the instrument name or symbol for our representation. This is very easily accomplished by associating the instrument name with the name in singing, simply as a fact, so closely that the two become inseparable. Any device by which the teacher can hold the attention of the pupils, and keep them interested in the practice of relative sounds, will be profitable up to a certain degree of proficiency; after which all practice should be so conducted as to create a mental picture of the true representation of the pitch of each sound as it stands upon the staff. Nor is this at all difficult to accomplish when the process, which is very simple, is understood by the teacher. This subject has been taught in such a way as to give the pupil the impression that there were thirteen, more or less, different major scales to be learned. This has been brought about by teaching the mathematical construction of the scale in its different positions upon the staff, and by making a study of the *names* of these different positions the important thing to be known. In teaching this whole subject of singing at sight, we should teach the *simple faots*, *name them orally*, and give practice upon them before the representation is given; and when the representation is given, it should be a true one of all the ideas taught. A knowledge of sounds should be established by presenting, comparing, and *naming* them to the ear as *relative mental objects*, on precisely the same principle that the eye should be trained to number with material objects. We should never forget that in teaching music we are not only teaching that which we cannot see, but that of which we can give no idea by any picture or drawing. In teaching music we must deal with the *reality*. No idea of the pitch or length of sounds can be obtained by studying the characters which represent their pitch or length.

All knowledge of musical notation, or the names of characters used in representing either the pitch or length of sounds, is of no value so long as a conception of their pitch or length is wanting. In teaching singing at sight, we are teaching two conceptions,—a conception of the relative *pitch* of sounds, and of their relative *length*. A sense of rhythm or recurring accents can only be awakened and developed by hearing such rhythms or accents. When I think of the time wasted in attempting to reach the mind with music through the eye, making the study of music a drudgery and a thing to be dreaded, when it should be a source of the greatest pleasure and delight, a feeling of sadness comes over me which I cannot express. Not long since a lady, with large experience in teaching music in public schools, visited me in Boston to witness my manner of teaching. In speaking of the improvements made in teaching time, she said, "I don't know how many pecks of apples I have cut up to make the children understand the difference in value of the half, quarter, and eighth notes." Now this was a conscientious, hard-working teacher who no doubt intended to do thorough work.

Another teacher of large experience (and this was a gentleman) gives his youngest pupils all the different kinds of notes, from the whole to the thirty-second note, with their corresponding rests, together with the staff, clef, and letters on the staff, to learn first, as a preparation for singing. Another teacher would take the first half of the year to teach notation and theory, and the last half for singing. The lady above referred to, I learned, was a recent and very enthusiastic convert to the Tonic Sol-fa system, which, of course, does away with the necessity of cutting up apples. The gentlemen were not converts to that system. Now, I wish to say, in all sincerity, that if there are teachers of music in public schools who have no clearer conception of teaching the subject than these illustrations would indicate, and who are taking the precious time of little children to create a dislike for music by presenting the dry mathematics of the notation, they should do one of three things, — either learn how to teach, take up some other employment, or, if they must teach music and can do nothing else, why take the figure or letter notation. A thorough knowledge of educational principles and training in the true philosophy of teaching is of much more importance to the teacher than a thorough knowledge of music gained in the ordinary way without such training.

I would not be understood to undervalue the importance of thorough musical education. We need all the musical culture that can be obtained from all sources, but this alone, however great, will not

insure good teachers. The teacher should direct the pupils in their thinking and practice, while they go on developing and gaining command of their musical powers until they gain command of the whole subject. What not to teach should be as seriously considered as the question of how best to teach the essential things to be known. The mistaken notion that it was necessary to teach the "complications of the notation" and the mathematics of musical theory, in connection with singing at sight, has been a great hindrance in teaching this subject.

To teach a proper use of the voice, and give pupils command of their musical powers until they acquire the ability to sing any composition of vocal music at sight, should be the aim and object of all instruction in music in public schools. Everything necessary to enable the pupils to do this intelligently should be taught, and whatever is not necessary should be left out until this ability is acquired. The great influence of music, morally, mentally, and physically, will not be fully realized until the time now wasted over the dry mathematics of the notation and theory is spent in keeping constantly before the mind by practice the essential things to be known, together with their true representations. There should be no questions or explanations on the part of the teacher that are not immediately preceded by the sound to which they refer. The pupils should be kept constantly doing, but this must not consist in working out the mathematical transposition of the scales or in writing scales. The scale should first be indelibly written upon the mind of the pupil by creating a mental picture of its true representation upon the staff through practice in singing it. No time should be spent in writing scales until the pupils can write them by hearing them. But I imagine some teachers will say that writing scales helps to fix them in the mind. My reply would be, that it helps fix the representation in the mind, but not the scale itself.

If a vivid mental picture of the representation of each scale, as it stands upon the staff, has not been established, either the practice has been wrong in quality or insufficient in quantity. The study of music, like everything, is dry and uninteresting to children when considered abstractly and theoretically; but it awakens the greatest interest when the mind is kept in constant contact with music itself. Our methods of teaching music must be brought into harmony with natural laws. Teachers who are familiar with educational principles and the true philosophy of teaching can be left to work out new methods and ways of their own, because they understand what they are doing. Three things are absolutely necessary to good instruc-

tion in public schools: (1) a proper use of the voice; (2) a knowledge of the relative pitch of sounds; (3) a knowledge of their relative length. I have placed these topics in the order of their importance, and in the order in which they should be taken up in teaching this subject. No part of the work is so important as the proper management of the voice. People generally have no idea of the charming effect of young, fresh voices when combined in part-singing, because they seldom or never hear them properly used. So keenly do I feel the importance of this subject, which is so far-reaching in its consequences, that I dare not commence a discussion of it here. I must take time, however, to say that we cannot expect to work any great general change in the use of the voice in singing so long as it is used so noisily and harshly in recitations in the school-room.

I am very glad to see in the June number of *The Century* an article by Mr. Tomlins, of Chicago, which shows a movement in the right direction. Let a proper standard of using the voice be once established in our public schools, and that class of "voice-builders," who are really voice-destroyers, will be obliged to seek some other employment. When I see the possessor of a naturally beautiful voice paying three dollars a lesson for having all the beauty and flexibility taken out of it, and substituting therefor a harsh, rigid, forced quality of voice, — in fact, everything sacrificed to compass and noise, — I must confess to feelings of sadness and pity. This is not an exaggeration, for I know of many just such cases. Childhood is the golden time for learning all studies, including music and the proper use of the voice. I am often asked at what age the voice should be trained. My reply is, if properly exercised in singing, the younger the better. If, on the other hand, the training is to be done by one of that class of teachers who seem to think that the Creator has made a grand mistake, and that everything is wrong from the start, and must be fixed by them before any progress can be made, the longer the training is deferred the better.

Upon the development of a conception of the relative pitch and length of sounds will depend our ability to sing. How shall a conception of the relative pitch of sounds be taught? In training the mind through the eye to a perception of color or number, there is but one process by which a knowledge of the things to be known can be acquired, while there is one uniform naming of the facts taught. If this were true of music there would be no difficulty in establishing a uniform method of teaching the subject the same as in color or number. The whole difficulty of teaching this subject has come from the confusion caused by mixing and naming what is known as

relative and *positive* pitch. Before any real and general progress can be made in the teaching of this subject, two facts must be established: First, that all knowledge that can be acquired of what is known as positive pitch is of no practical value in singing at sight, any further than the convenience of being able to give the pitch of the key-note as a starting-point. Second, that an approximate knowledge of what is understood as positive pitch can be best acquired in singing through *relative* pitch, by always using a uniform standard and singing the music in the key in which it is written. Many have the impression that they sing by positive pitch, but such is not the case. Players of stringed instruments do not play positive pitch. Keyed instruments, like the piano and organ, play positive pitch and play out of tune. We must have a uniform method of *thinking* and *naming* sounds which shall make this whole subject perfectly clear to the mind without the aid of an instrument. So long as the methods of teaching this subject are to be influenced by musicians whose knowledge of music has been gained by hearing it through musical instruments, and whose only qualifications for judging in this matter are that they can teach or play the violin, or some other instrument well and can direct an orchestra, just so long will the teaching of singing in public schools be unsatisfactory.

No one question pertaining to the teaching of this subject has been so much discussed, and upon which so great diversity of opinion exists, as upon the use of the syllables. Shall we have a "fixed *do*," a "movable *do*," or "no *do* at all"? All these ways of using or not using the syllables have their objections. My position is this,—that all music is written upon the principle of the relation of sounds to each other; that all instruments are tuned upon it, and that singing must be taught upon that principle; consequently anything which prevents the mind from grasping this relation of sounds and gaining a clear conception of them must be avoided. The "*fixed do*" does this, and should not be used. On the other hand, to use the syllables as names of the sounds, and to practice singing with them as such until the singer finds it difficult to think or give the sounds unless he also thinks and sings the syllables, is narrowing in its effects, and prevents that freedom in thinking which every singer should possess.

The syllables are very useful in elementary teaching if properly used. They are also a stumbling-block and a great hindrance if improperly used. They are valuable in giving practice in singing different vowels and consonants, although better ones might be invented. They should be used synonymously with the *names* of the

sounds, but should not be allowed to take the place of the name in thinking. If they are properly used, little children will outgrow them as naturally as they outgrow their garments. The science and art of teaching is in its infancy, especially as applied to the teaching of music. When the same attention and care is given to training the ear to sounds that is given by the best teachers in training the eye to color and number, we shall see a wonderful proficiency in singing. What little training has been given in sounds has been confined to a very narrow range. The scale should be the unit in thinking, and when a vivid mental picture of its different representations upon the staff is clearly established, the pupils should be taught to think instantly the relation of any sound to every key in which it is found. This makes the pupils familiar with the whole subject of modulation and transition, and is not so difficult to acquire as it would seem. We judge the ability of children to think music by our own when our training in thinking sounds has been very narrow and meagre, and our ability very limited indeed in comparison to what it would have been with a broad, systematic training.

A practical knowledge of the relation of sounds in all the keys can be more easily taught than the different combinations of numbers up to ten. How shall a conception of the relative length of sounds be established? This can best be accomplished by the use of a Time Language, which shall establish and *name* the various regular recurring accents, and name definitely the relative length of each sound in the measure. The idea of measuring the length of sounds by a time-language originated in France in 1829. As the scale should be the unit in measuring the relative pitch of sounds, so the measure should be the unit in thinking their relative length. The different mental effects in time comes from the varying accents. One sound standing by itself means nothing musically in either pitch or length. It must be associated with other sounds with which it can be compared before it has any meaning or pitch. It must also have an element of accent or pulsation associated with it before it has any meaning in length. A conception of these accents or pulsation should be established with the time-language before they are represented in notes. I am often asked if the children should beat time while singing. My motto is, One thing at a time; first learn to *sing* in time, before you learn to *beat* it. It is the mind that makes the hand move; the hand does not make or help the mind to act, and ths making of a set of motions with the hand for each form of measure, called beating time, is not only useless, but a great hindrance. Formerly, when we considered the relative names of notes, and

measured their value by beats, beating time was considered necessary. If the time-language is properly used it will do away with the necessity of first learning the fractional names of notes, and naming their value by beats.

When the sense of rhythm is well developed it will show itself. It will then be a very easy matter to beat time if desired. A very important matter connected with this subject is the examination. Examinations in music, as usually conducted, induce and encourage *bad methods of teaching*. They are usually examinations upon notation and theory. In many cases music is left out entirely. I know a city where the examinations in music have not touched upon the ability to sing at all. They have been examinations entirely upon notation and *proof-reading*. What superintendent or school committee would think of sending out a written examination to ascertain how well the pupils could read? And yet this would be sensible when compared with a written examination in *singing*. Just so long as a teacher knows that her reputation as a teacher of music, and the standing of her class, depends upon the per cent. of correct answers to be written out upon the transposition of scales, notation, and theory, just so long will they be very likely to get a hundred per cent. in their examinations, and know little or nothing about music. By music I mean sounds and their combinations, and not inventions for representing them. I would not be understood as ignoring the importance of a knowledge of the notation; while it is important, it is a secondary matter.

To spend time in teaching the names of characters used in representing musical ideas before the ideas themselves are established, is wrong. The names of characters should be learned incidentally by talking about them, in connection with practice. We have attached too much importance to the names of *signs* of things, and have lost sight of the things themselves. Not a single question need be asked about the notation that is not immediately preceded by the sound to which it refers. Apply this rule and you will keep the ear in training all the while; and if you know how and when to ask the questions, your pupils will not only *know* the notation, but can *sing* from it.

All the teacher can do is to guide the children in their *thinking* and *practice*, and the teacher who has not learned to do this has not learned the art of true teaching. I am inclined to think that the only limit to what can be taught children in mnsic is the ability of the teacher. Dr. Lowell Mason, in his day, did a great work in spreading a knowledge of music among the people of New England.

Through his influence and others associated with him, New England, twenty-five years ago, could boast of more good readers of music than any other like area in the world. With the rapid increase in the number of musical instruments, and the large increase and importation of instrumentalists, that old New-England institution, the singing-school, which was the backbone of the strong mental growth in music twenty-five years ago, has been crowded out. I appreciate the great value of musical instruments as a means of advancing musical culture; there should be a good musical instrument in every household, but these instruments should not be used for "*cramming*" in music, and thereby prevent that mental activity and growth from within which comes from a proper exercise of the mind in thinking music rather than merely hearing and imitating it. Musical training in singing should precede and prepare the pupil for instruction upon musical instruments.

When on the assembling of any considerable number of singers (either children or adults) it is found necessary to disregard all arrangement of the singers that will enhance the vocal effects in order to accommodate a large orchestra, which shall constitute the chief attraction and upon which the conductor can depend to pull the singers through, something is wrong and should be corrected. Whenever an orchestra is employed in connection with chorus-singing, it should be subordinate to the singing, and if the singers cannot sustain themselves without the orchestra they should not appear at all. The foundation for independence in singing should be laid very early in life. This must be done in the public schools, and can best be accomplished by a short daily lesson; and in order to accomplish this successfully the regular teacher must be brought into requisition. To Mr. Luther Whiting Mason belongs the credit of introducing the regular teacher as the *teacher of music*, under proper supervision. Animated by a true Christian missionary spirit, he has worked incessantly with but one object in view, and that the good of the cause. His has been a pioneer work in the right direction. And it is in this direction that we must study to improve the teaching of music in our public schools. Then, with skillful instruction and supervision, music will soon take its normal place as a refining and elevating influence in moulding the character of the young.

THE TEACHER'S INFLUENCE.

BY GEO. J. LUCKEY.

The world is what we make it, and we are what we are by education. The organs of speech are alike in all people, and yet by education different nations speak different languages. The Chinese and the Russian hand down their peculiar dialects from generation to generation, and will continue to do so until the end of time, unless a stronger educational force from without shall compel them to accept a new language or a different dialect. The pecular habits, customs, and prejudices of every people are nothing more nor less than the result of education. The traditions of the fathers influence the children to the third and fourth generation.

Education leads the Englishmen to venerate his Queen, and the Irish Celt to hate the government under which he lives. It makes the Briton extol the name of Wellington, and causes the breast of every Frenchman to swell with pride when he recounts the daring deeds of the first Napoleon. It directs the Mohammedan in his pilgrimage toward Mecca, and brings the Jew to worship in the synagogue of his fathers. It moves the Buddhist to chant his sacred songs in the gilded temples of the East, and controls the Christian in his more rational worship of the true God.

We ask ourselves the question, Why do beings of a like nature and with the same faculties differ so radically in their political notions, religious views, and social customs? To this question there is but one answer; viz., the belief and actions of mankind are greatly controlled by education. Even in our own community among our Christian sects, we find, by investigation, that the dividing line is education. Our Episcopalians have had Episcopalian training; our Presbyterians have had Presbyterian fathers; our Methodists have had Methodist mothers; and our Catholics have been reared with priestly care in parochial schools. So generally is this true that we may predict, with reasonable certainty, what will be the religious belief of those who are yet unborn. For instance, no one will care to doubt the prediction that nine-tenths of those who will be born in the next decade on the sunny hills of Spain will be Catholics; and a like proportion of those who may first see the light on the Scottish soil, will be imbued with the principles of the Reformation. Why

will this be true? There is not enough in the physical surroundings of these people to indicate what will be the religious belief of their future generations; but knowing what will be taught, we can foreshadow the tenets of their creed, and predict the tenor of their rules of faith and practice. Let the religious education in these countries be reversed, and the next generation of Spaniards will read the works and follow the teachings of Luther, Knox, and Calvin, while the Mass would be celebrated in every Scottish kirk, and the image of the Virgin would adorn the walls of St. Giles.

What is true in the matter of religion is true in everything else. Our young politicians argue with warmth and enthusiasm for the doctrines of their respective parties, all believing that their convictions are based upon reason and investigation, while in fact they are but the bias of education. Their political opinions have been molded by home training. Had the Republican been reared by a Democratic uncle, or had the Democrat been sheltered beneath a "Stalwart" roof, their politics and convictions would have been reversed.

To the casual observer it might appear that this rule does not always hold good. In the realm of mind, as in the realm of matter, we find sudden and unaccountable changes, great revolutions in thought that compare in grandeur and sublimity with the physical eruptions whose footprints we find in the deep cañon, or penciled in rugged outline far up the mountain-side.

The great convulsions of mind and matter are not outside of law and rule, but are as surely the results of a cause as are the more common occurrences of every-day life. Take, for instance, the reformation of the sixteenth century, when whole communities and states and nations, almost as one man, changed their creeds and customs, and it will be at once conceded that this mighty revolution was but in obedience to the general rule, that men are what they are by education. The new doctrine, though having its vague inception far back in the recesses of hoary centuries, under the general rays of brightening ages, at length broke through the eyelet of its secret spring, and gathering strength in its onward flow through the confines of awakened thought, at last swept before it with irresistible force every vestige of opposing error and superstitution.

The education of an individual, or of a community, is a much more rapid process to-day than it was in the ages that are past and gone; Then the only educating agencies were the church and the family; then the thoughts, the convictions, the customs, and the prejudices of a generation were almost exact duplicates of those of preceding ages; but to-day we have so multiplied the educational forces that

it has become possible for individuals and communities to be entirely changed in their customs, habits, and convictions in a single generation. The invention of printing makes the thought of each individual the common property of mankind; the telegraph daily brings into every household the important doings of all nations; and the improved modes of travel make it possible for us to visit the remote ends of the earth, and for people of different climates and languages to mingle together and learn from each other. But we must not suppose that the open, visible, and recognized educational agencies are the only ones that influence the belief and actions of mankind. From the cradle to the grave our opinions and actions are, in a considerable degree, molded and controlled by a thousand subtle agencies; they are influenced by the words and acts of our companions in childhood, by the mountains that encircle our homes, by the rivers upon whose shaded banks we hold our childish sports, by the storms of summer, by the snows of winter, and by the delicate flower that sheds its perfume on the gentle breezes of spring-time. But of all the educational agencies, there is no one that exerts so powerful an influence upon the human mind as does the professional teacher. In his hands is the destiny of the American people; to his care has been committed human liberty and free institutions, and he should be prepared to accept the responsibility which the people, the nation, and the nineteenth century have imposed upon him. This great nation was not born of chance; the principles of free government were not the discoveries of a single generation; the love of liberty and the hate of tyrants were the results and outgrowth of a long-continued process of education; thought was quickened by perception, cultured by hardships and suffering, and ripened amid scenes of carnage and bloodshed. The result of this education of our fathers is a nation of freemen. As it was developed by education, so must it be preserved by education; and under our peculiar system of government the chief responsibility for its preservation has been placed in the hands of the public school-teacher; hence the necessity that the teacher should realize his responsibility, and that he be thoroughly prepared for the great work in which he is enlisted. What shall be the nature of the preparation?

He should have a sound body. I know that great things have sometimes been accomplished by men whose souls have been confined in fragile shells, but the rule is the other way. A forest tree, planted in the crevice of a rock, may sometimes be the peer of its more fortunate neighbors in the valley below, but yet men do not search for the finest timber upon the rocky hillside. The fruit from

the blighted apple-tree may, in the distance, look red and luscious, but on close inspection you will find the marks of disease plainly written in the core. The work of the teacher is of such a nature that it will soon destroy a sickly body; and he who possesses an unsound constitution, if he values life, should never preside at a teacher's desk.

Accompanying a healthy physique the teacher should have a cultured intellect. By this I mean more than a knowledge of books. Side by side with his knowledge of mathematics he should have a knowledge of the world; underlying his knowledge of geography should be a knowledge of mankind; and above and beyond his knowledge of science and astronomy should be a knowledge of Him who made all things. The teacher is the pupil's model, and this model should be as perfect as it is possible to have it. Every word spoken, every motion made, every action performed by the teacher, has its part in the education of those placed in his charge. If the teacher is uncultured in expression, the pupil will imitate him; if he is rude and awkward in his manners and movements, the pupil will be like him; if he is drowsy and slow in his actions, the pupil will incline to be dull and stupid.

The teacher should be a student of child-nature, and have a heart big enough and good enough to furnish sympathy in every childish sorrow; he should possess a centripetal force which should draw every individual pupil toward him, and this force should be strong enough to reach out over fields and hills, through streets and alleys, to every home. He who possesses the opposite repulsing or centrifugal force can never be a teacher; he may keep school and draw a salary, but he cannot be an educational force. The true teacher must not only understand science, but he must know himself; and his ability to govern and control others will depend largely upon his ability to control and govern himself. A man may have a sound body and possess good literary attainments, and fail as an educator for want of enthusiasm. To be a successful teacher he must have unbounded zeal in his calling; he must realize the great importance of his work; he must feel that he is engaged in making citizens of a great republic, in making mankind better and in helping his little corner of earth to be happier and purer.

The American teacher can follow no model,—his work is different from that of all who have gone before him. In older countries the teacher supplements home training, and home-training is a well-defined, definite, positive quantity. Here the teacher's work is not supplementary, but original. We are building a new nation; we

must take the different people from all nations and climes and mould them into a new nationality; we must change their language and their customs; we must teach them to love another flag, and wean them from the graves and traditions of their fathers; in short, we must transform them from serfs to sovereigns, from slaves to men. If we are successful in our work, the future historian will record the existence of a nation more populous than ancient Rome and more cultured than Greece. If the Roman forum gave law to the world, and the gardens of Athens furnished her with models of art and oratory, may it not yet be said that the American school-house gave liberty to human-kind? Whatever this great Nation is to be in the future, whatever blessings are to be bestowed upon the human family, the public school must largely determine.

Already the public school has done much to make mankind better. In it the children of all denominations and parties form a common brotherhood. The walls of prejudice and hate, which divided our fathers into hostile sects and parties, have been leveled to the earth, and only imaginary lines are felt instead. Those who in youth sit at the same desk, play at the same games, and recite in the same classes, cannot and will not be enemies in manhood.

The rack, the thumb-screw, and the stake might flourish when education was in the hands of sects and clans, when love was circumscribed and hate was universal, but they can have no place where dividing lines between sects have been obliterated, and where the human family constitute a single clan, unbounded by color or nationality. The question of the Great Master, asked eighteen centuries ago, Who is my neighbor? is answered to-day in every public school in the land, in the teaching that,—Every man is my neighbor; no matter where he is born, no matter what his political belief or what his religious opinions: if he bears the image of God, he is my neighbor.

WHAT HAS BEEN DONE FOR EDUCATION BY THE GOVERNMENT OF THE UNITED STATES;

OR,

OUR NATIONAL GOVERNMENT THE FRIEND OF THE VIRTUE AND INTELLIGENCE OF THE PEOPLE.

BY HON. JOHN EATON, LL.D.

The chaos of darkness began to give place to order when God said, "Let there be light." Whether or not this command became a law for all future events, it appears clear that all great forward movements of mankind have been inaugurated by some measure of obedience to its purpose. The establishment of a free government by the fathers of American liberty was no exception. Out of a decent respect for the opinions of mankind, they declared to all the world the causes that impelled them to the separation. The principle thus illustrated, though sometimes obscured, has been followed by the Government of the United States to our day; and may we not add, because of this we still exist as a free people? Our government of liberty, by the people and for the people, is believed to be one of reason and conscience, and it is held that it will have the support of the hearts of mankind when it receives the approval of their judgment. Resting on the intelligent and virtuous choice of its own citizens, this government proceeds upon the idea that it is concerned in their virtue and intelligence, that it must take the people into its confidence, and that they must know it and understand it to perpetuate it. To many the General Government is so remote, so far away, so indefinite, that they think of it only as naturalizing foreigners or making treaties or conducting wars, collecting our customs, distributing the mail, and having a President and Congress. Even the instruction in our schools concerning the Constitution of the United States is too often devoid of any adequate or clear specification of its manifold responsibilities or of its many blessings.

The teachers and educators of the country should know how to avail themselves of all forces at their command to aid themselves in making sure the intelligence and virtue of the people, and thus assure also the great good committed to this Government for this and other lands, for this and all coming generations. In considering what has been done by the Government of the United States for education, and more from convenience than from scientific accu-

racy, I choose to speak first and mainly of what the National Government has done indirectly for education, and secondly and briefly of what it has done directly.

I invite attention to the indirect influence of Congress, the law-making power. Every man taking the oath of civil office is bound by supreme allegiance to the constitution and laws of the United States. Thus through all the land is not only taught the supremacy of the laws of Congress, but the solemnity and binding character of the oath are emphasized by the great moral weight of the Nation. The Senate, so far as it participates in what may be called executive administration, acts in secret session; otherwise Congress does its work with open doors, nor does it deliberate without records, nor does it trust the recording of what it does to other agencies. The account of its doings, its daily journals, and the *verbatim* reports of its proceedings are available to tell the people in the remotest corner what their representatives are doing, and every well-conducted debate is a source of enlightenment to the people. The great number of bills on a vast variety of subjects offered each session, which some attempt to ridicule, illustrates the immeasurable number of public interests demanding consideration by its members, and is fitted to convey an idea of the importance of congressional position, and in time to create a demand among the people for the highest order of character, fitness, and attainments. The work of its numerous committees often taxes experts in science to their utmost. The direct distribution of documents by members is enormous and has a vast informing power, however many may be wasted. Two sets of congressional publications are given by law to libraries in each congressional district, to be indicated at the discretion of the member; thus there is placed in every part of the land, even in far-off Territories, a record of the course of public affairs, for the examination of inquirers. Under Congress, too, there is a great library containing 480,000 books and 160,000 pamphlets for its own use and that of those within reach of the Capitol who desire its aid. The neglect to provide a proper building for this great source of instruction to the country, points at once to its greater possibilities and to defects in congressional action. Here the librarian administers the copyright law, so stimulating to literature and encouraging to authorship, according to which 12,297 books alone were entered last year. Even for artistic works, which the ordinary visitor to the Capitol passes by with a hasty glance or a disdainful weariness, the national Congress has expended considerable sums of money. Now and then there may have been reason to complain of haste, of ignorance, of partial-

ity; but the intention of the Government has been almost always good. The paintings, statues, and busts which adorn the Federal City's public buildings and squares have cost more than $900,000. Powers, Greenough, Crawford, Rogers, Brown, Launt Thompson, Healy, Trumbull, Moran, and other great names are represented in this array of plastic and pictorial beauty, wherein the sages and heroes of the republic are preserved to us, though their bodies are dust, so that their outward appearance may fortify the lessons of their wisdom and valor.

But this is not all. The public buildings of Washington are large and magnificent; the architect of the Capitol and the architect of the Treasury may well feel proud of the stately piles that, while they shine in the free sunlight, testify to the wealth and grandeur of the nation. But the public buildings in Washington are a mere drop in the bucket, compared to the numerous and noble structures scattered over the country, already erected or now building. The United States court-houses and post-offices in almost every large town and the custom-houses and marine-hospitals in every port are solid witnesses of the care, taste, and attention expended for the suitable and orderly conduct of federal business. How much these buildings have done to improve and chasten the public taste, to create a desire for beautiful and durable private and corporate architecture, can hardly be imagined.

The close connection into which Congress is brought in making laws with the veto power of the President and the decision of the courts illustrates before all minds the greatly needed principle, of universal application in human affairs, of self-limitation and self-restriction within properly defined limits. You will recall the extent to which the House of Representatives has sometimes been carried in the heat of excitement, in the assertion of what were its rights as against those of the private citizen; but when a case involving this question was brought before the Supreme Court of the United States, the constitutional line was laid down and clearly enunciated, and when next a proposition of this kind was made, infringing the rights of the citizen, a reference to this decision was enough to arrest action and point out the folly and wrong proposed. It would be impossible to tell how much all our ideas and habits of justice are affected by the decisions of this court, as they are enforced through the circuit and district courts of the United States system and the administration of the Dept. of Justice. How speedily would their mal-administration corrupt the very fountains of justice throughout the land! In many causes the State courts are final, and many of them are pre-

eminent in their judicial character; and yet it is not too much to say that the United States courts affect the administration of justice through all grades of courts, down to that of the lowest magistrate. No one can study our Supreme Court without a feeling of profound admiration for its high character and of gratitude for its wisdom and justice, even though occasionally it may commit the error of giving an extra-judicial opinion. What a mass of legal literature is coming from these courts for the information of the bar, the law schools, the public press, and the people!

The President, chosen directly by the people in their action by States, is in a peculiar sense to them the embodiment of the national idea. They desire to see him, to speak to him, to shake his hand; and in spite of the laugh that some would raise at the expense of this widespread feeling, there is in it a solid good, closely connected with the most self sacrificing and heroic patriotism. The people,—yes, the common people, as some are fond of saying,—understand the purpose of those who would shut the President within the walls of the White House and never permit him to go abroad among them. They desire his visits to their States, their cities, their vocations; they want to feel the inspiration to patriotism and nationality awakened by him as by no other presence. Thus, when the President speaks, when his messages are sent to Congress, the intelligent of all classes want to read what he says, and those newspapers that may entertain the most bitter feeling toward him are in a sense compelled to give his words, even though it be in a garbled form. Study the difference between his communications and those of the head of any other form of government, and you get at the very essence of the excellence of our free institutions. Take, for instance, the President's messages and accompanying reports from the several cabinet officers at the beginning of Congress; how full they are of facts, of light upon the course of our public affairs, compared with the ex-cathedra, dictatorial utterances of a king or queen or emperor or czar! The people feel that his messages, though addressed to their representatives and senators in Congress assembled, are really addressed to themselves, who are the power behind all other powers in our form of government.

Through the State Department is carried on that portion of the administration under the President which is directly connected with the United States Ministers in foreign countries, and the representatives of those countries accredited to the United States; also the correspondence between the President and the several States. It has the custody of the great seal of the United States, which is affixed to various public documents. Here are preserved the treaties and laws

of the United States. Here all applications for passports are made. Through this Department the American people are expected to know officially the rest of the world. It has an invaluable collection of portraits of eminent public men, a diplomatic library of great value, and is charged with the custody of some of our most important archives. Here is a large collection of the papers and letters of George Washington, including that remarkable diary of his boyhood, the whole costing $45,000; here are the papers of Jefferson and Franklin, and of others hardly less valuable, but impossible to enumerate. As early as 1818 this Department was authorized to purchase for distribution, at a cost of $5,600, Seybert and Pitkin's Statistical Annals and Commercial Statistics. Dr. Seybert says in his preface that at that date the documents annually presented to Congress are contained in more than 120 volumes, and are too much diffused to be made the subject of immediate reference. Through this Department, too, the country was put in possession of copies of the journals of the Federal Constitutional Convention and of the secret journals of the old Congress, and, at a cost of over a quarter of a million dollars, the documentary history of the Revolution. Not alone the private wealth of Astor, but the State Department, aided in the production of *Audubon's Birds of America*, that pride and glory of American naturalists. It has often been wondered why the first great World's Fair, held in London in 1851, produced so slight an effect upon the United States. The reason becomes obvious when it is known that the State Department was not authorized to participate. On the other hand, our new and enterprising affairs received such an impetus from the exhibitions in Paris in 1867, Vienna in 1873, and Paris in 1878, because the State Department was authorized to take charge of American exhibits, to employ experts to examine and report their lessons and to print the same, the whole at a cost of from $160,000 to $200,000 for each exhibit. Well-informed Americans glory in that great work, *Wheaton's International Law*, but it is doubtful whether its publication would have been possible had not the Government aided it through this Department. Through it also our people had the benefit of the London International Statistical Congress in 1860, and of the similar Congress in St. Petersburg in 1872, the published reports of which, in the possession of our libraries, have done so much to shape our progress in statistics the last twenty years. Were it not for this same agency, also, that able educator, that preëminent student of penology, that ardent and successful reformer of prison affairs throughout the world, Rev. E. C. Wines, D.D., LL.D., would not to the credit of American philanthropy

have led the organization of International Prison Congresses held at London and Stockholm, nor could he by his publications, moreover, save as made at public expense, have shed the light of those great gatherings upon every prison administration in every State and county in the Union. From the same source we have also, in addition to its valuable reports, a series of bulletins containing the reports of our consuls from all portions of the world, so valuable that they are sought in every center of commerce and learning.

How many think of the Treasury Dept. only as a great, strong box, which receives and holds the nation's treasure, and from which is paid out the money for the carrying on of the Government. Here, too, the great informing principle is applied. The methods of accounting, devised in the main by Hamilton, are undoubtedly not excelled in their fitness to show clearly every transaction, either to give proof of honesty or to expose dishonesty. Many jokes and anathemas are thrown at what is called its red-tape; but when there is just complaint that its methods are offensive, it may be well to inquire whether a spirit of officialism, so hateful in itself and justly so offensive to the American people, has not taken possession of some clerk or officer instead of there being any fault in the system itself. A computation has been made by experts of the losses in handling public moneys of the United States from June 30th, 1861, to July 1st, 1879. The amount handled in this period, including receipts and expenditures, reached the enormous sum of $31,500,000,000, and the losses, though there were five years of war during the period, reached only forty-six cents in a thousand dollars.

What financial administration of the States or cities, or of our banks or other great commercial affairs, can compare with the administration of these vast funds in security and absence of loss? Hence it is only fair to say that here is taught by example, as nowhere else, the administration with scrupulous fidelity of public and private trusts. Introduce corruption here, and how soon it would spread through all our affairs, and public and private confidence would take flight. It should be observed that, while the accounts of all forms of service are settled in the Treasury, this honesty and preciseness must necessarily be shared by every officer charged with the responsibilities of expenditure; and while I speak of it in connection with the Treasury where the records are kept, I would point with emphasis to the fact that it is equally characteristic of the service where these records are made. Here the national banking system is administered,—so admirable that no one need ever lose a dollar of issue, and so instructive of honesty compared with the "wild-cat" systems,

long prevalent in different parts of the country. Here, too, coinage is managed. The memory of mankind cannot recall the date when the educating power of coins was not understood, and the chief evidence we have of certain rulers and epochs is to be found on their coins. How did the emperor of France familiarize the eyes of the world with himself by the napoleons which he made popular as a coin, even where he was despised! Who shall say how much of national and patriotic sentiment is taught by our money, either in paper or coin, bearing the national impress? Yet we cannot fail to lament that we should ever have fallen into error as to the relation of paper to coin, or of silver and gold to each other. But along with the use of coin comes the most effective service for the detection and punishment of counterfeiting in all its forms, operating freely without reference to boundaries or peculiarity of State laws, punishing the most notorious criminals, thus aiding in teaching the perils of crime and in protecting all communities against its depredations. Here also is the record of all securities outstanding against the United States, upon the accuracy and fidelity of which their value depends, whether in the hands of orphans and widows or banks.

In the Treasury, also, is administered the light-house system that dots our coasts with those lights and other signals that warn those who go down into the sea in ships against the perils of death that would otherwise await them. Here, too, is the Life-saving Service that has its stations upon all our shores specially perilous to navigators, and where, by the skill of science and art and by heroic endeavor, so many lives are saved from watery graves. Here, too, is the Marine Hospital system, by which a hospital for sick sailors of every nation is provided at every one of our considerable ports, whether on gulf or ocean or lake or river. In this Department are supervised all the public buildings erected in the different States by the United States. Here, too, is found the National Board of Health that has taught us how the whole people may be protected from the terrible plague of yellow fever; how much security there is in a formal, careful, and correlated system of quarantine in all our ports; how all epidemic and contagious diseases can be staid by a hand that stretches over the whole land and brings into coöperation all other agencies of State or city. Here, too, is operated the Customs Marine Service, with its force of officers and men and a great school of navigation with its fleet of vessels.

We must not omit the Coast Survey, recommended by Jefferson and Gallatin, which has been made immortal by Hassler, Bache, Pierce, Patterson, and Hilgard. Here are kept the standards which deter-

mine the weights and measures used throughout the country. Here exact mathematics and chartography find inspiration. By the nicest processes and instruments of precision, our coasts and harbors are surveyed and mapped. In the reports of the office nearly 200 articles have appeared on subjects pertaining to geodesy; about 130 on tides, currents, and winds; 60 on terrestrial magnetism; and a long list on the Gulf Stream, deep-sea soundings, the measurement of heights, surveying, astronomy, and miscellaneous subjects. It has issued some invaluable volumes of the *Coast Pilot*, and has in course of preparation a magnetic map of North America and a general map of the United States, compiled from the precise data acquired from its surveys.

But what can we find in the way of contribution to education, either direct or indirect, in the War or Navy Department? The horrors of war no one has yet adequately described. The spirit of war and of a standing army or large navy on a war footing is hostile to the fundamental ideas of our liberty; but a nation conducted in the spirit of non-resistance could find little chance for standing among other nations of the earth, even in this the nineteenth century of Christian progress. The theory of our Government appears to be that the army and navy shall be the least possible, consistent with the protection of our frontier and of our commerce, the suppression of sudden violence, and the supply of officers, should the emergency of war arise.

Through these Departments all the improvements are kept under observation in the conduct and organization of armies and navies throughout the world. Through them also these ideas are disseminated for the benefit of the militia in all the States and for the preparation of merchant-marine. In the purchase of their supplies, great systems of tests are maintained by which the qualities of food, clothing, and medicines are determined. The Commissary Department of the Army publishes a cookery-book for the use of the camps. In the Quartermaster's Department the veterinary surgeon may get some of his best information. The Corps of Engineers is busy with questions of fortifications, torpedoes, bridges, surveys. In it is the science which directs the improvements of our rivers and harbors and lays out our military roads. The Ordnance Corps is busy with questions that apply to all munitions of war, and lays under contribution the most advanced attainments of science touching all its affairs.

The army furnishes a trained officer for instruction in military tactics in many of our colleges. The Surgeon General's office has placed, not Americans only, but all nations, under obligations for its

efforts in behalf of surgery, anatomy, hygiene, and all departments of medicine and sanitation, and the introduction of humane appliances for the relief of the horrors of war.

Take the publications of the War Department. People suppose usually that these comprise the annual reports of the Secretary, the commanding general, and the heads of the staff corps, and that the information given is necessary, but very meagre and very dry. Now nothing in the world can be further from the truth than any one or all of these suppositions. The annual report of the War Department of late years fills from three to five octavo volumes. Besides the general account of the condition and movements of the army during the year, and in addition to the ordinary statistics about the cost and quantity of subsistence stores, means of transportation, medical supplies, and similar topics, it comprehends an account of all the great engineering works under the charge of engineer officers; it contains a yearly study and careful analysis of the weather by the Signal Office, and wise hints as to the kinds and causes of disease in every camp from the Rio Grande to Maine. But the annual report is not the only publication of the War Department. The Secretary has for years been acquiring, classifying, and printing materials for the history of our great war, written by men who were eye-witnesses and participants in the incidents they relate. The Surgeon General's Office has published several superb quarto volumes of the medical and surgical history of that war, and three or four large octavo volumes of the subject catalogue to the matchless medical library of that office. The other scientific corps of the army are methodically producing treatise after treatise and report after report. Think of Rodman's labors in the Ordnance Bureau, of Comstock's survey on the northern lakes, of King's and Wheeler's surveys in the great West! The Signal Office publishes a daily weather map, containing a short account of the weather for the last twenty-four hours, a delineation of its actual condition as to humidity, temperature, and wind, for the whole Union, and a prognostic of its probable character for the coming day. It is hard to say how many billions of agricultural and marine property this weather map has saved in the last fifteen years. What we can say is that almost every who sees its friendly green expanse at his post-office every morning governs his proceedings by its advice; ships sail or keep safe in port, crops fall before the reaper or stand untouched, according to the encouragement or warning of the War Department weather map.

Examine for a moment what the Nation has done for science in connection with the Navy Department. The *Nautical Almanac* has

appeared for every year since 1855, costing from the beginning of the work in 1849 to 1876 more than $557,000. The study of meteorology, or the rules and incidents of weather-changes, was prosecuted between 1848 and 1860 at a total expense of about $24,000. Astronomy has been sedulously fostered since 1844 by the foundation and support of the Naval Observatory at Washington, which has been adorned by the labors of Matthew F. Maury on the study of the Gulf Stream; of J. M. Gilliss, in connection with the astronomical expedition to Chili; of Simon Newcomb, in the late transit of Venus; of Asaph Hall, in the discovery of the satellites attending Mars; and by the equally useful, though less known, labors of others. Here is the finest astronomical library in all America, numbering 6,000 books; here, too, is the great equatorial telescope, twenty-six inches in diameter, for which, with its tower, dome, and other appliances, the Government paid more than $65,000. Education of naval officers and engineers cost the Government, between 1848 and 1876, $3,248,000, and the grounds and buildings at Annapolis used for this purpose cost $97,000 more. Geography is enormously indebted to the many ocean and inland explorations conducted by officers of the Navy. Remember how Charles Wilkes, between 1838 and 1842, discovered the Antarctic continent and many islands in the South Seas; how Ringgold and Rodgers, between 1852 and 1855, explored the Pacific from Van Dieman's Land to the Aleutian Islands; how Lynch penetrated the rivers of West Africa, and explored the Dead Sea and the Jordan; how Herndon and Gibbon explored the Amazon in 1851 and 1852; how Surgeon Kane pierced the icy solitudes of the Arctic seas in 1854; and how Commodore M. C. Perry, about the same time, unlocked the mysteries of Japan for the modern world. From the collections made by these fearless explorers the National Library of Congress, the National Museum directed by the Smithsonian Institution, the botanical gardens of the country and the world, commerce, art, and science generally have received an immense impulse. Nor should the labors of Dr. Charles F. Hall of the "Polaris," and Lieut.-Commander De Long in the "Jeannette"; of Ammen, Shufeldt, and others, on the Isthmus, be forgotten. Naval officers have charge of the four training-ships that are doing so much for the improvement of the mercantile and naval service by forming a superior class of sailors. Naval officers are on duty in the Light-house Service, the Coast Survey, the Smithsonian Iustitution, the National Museum, and the Fish Commission. Officers of the American Navy have helped to reorganize the navies of Germany, Egypt, China, and Japan. In several colleges, naval officers are detailed to give in-

struction in marine engineering. Besides the annual reports to Congress, the Navy and its bureaus have prepared and issued more than five hundred professional volumes and pamphlets, embracing all the general subjects heretofore mentioned, and treating numerous topics of the greatest scientific interest in the most comprehensive way.

General Grant, when President, was fond of calling attention to the educating influence of the postal service. No teacher fails to tell his pupils of the advantages of letter-writing, and the post-office makes these benefits possible and multiplies them. How has this service responded to the improvements of the period in facilities and cheapness? The letter that required twenty-five cents for transmission a few years ago, if sent several hundred miles, now costs two cents, and will soon require but one cent to any part of the land. The rapidity of transit keeps pace with the improvements in travel. Go where you will in United States territory where citizens live and do business, and there is the mail of the United States. On postal trains, assorted as they fly; in cities, protected in chariots or placed by careful carriers in the very hand of the one addressed; again, in pioneer regions, it travels in coaches or on the backs of mules or packmen,—thus reaching every hamlet, thus penetrating every center, however great and populous, and every region, however remote and solitary, if inhabited by an American citizen. This universal presence of the United States mail, meeting the traveler on every train, or steamboat, or stage, and at every station, gives one something of the impression of the ubiquitousness of Providence,—carrying messages of business, of love or sorrow, of pleasure or pain, together with the newspapers and books, or other forms of the printed page in packages, in a single year numbering in the neighborhood of two billions and a half.

The Interior Department, one of the last cabinet offices established, as might be expected, has manifold methods of contributing to the education of the people. Here is the Land Office, where are held securely the records of the titles to the lands in the newer States. The difference between the titles thus derived and those obtained by old colonial and other methods, is too well-known to need description. By this office the great precept is enforced, "Remove not the old land-marks," which has so much to do with the value of property and the peace of communities. This office, by its system of surveying the public domain, has furnished a vast amount of information, has guided immigration and settlement, and by its system of maps been a great instructor in the geography of our country, for our own people and those of other lands. The Pension Office illustrates the

regard by our Government for those who rendered it faithful and efficient service in war. The hundred millions appropriated annually at the present time for pensions, show at least that republics are not ungrateful. The Patent Office may be said to lead the world in the excellence of its methods and its power of stimulating invention of new devices, useful to mankind. Here are stored the models and the drawings and specifications of the patents granted from the early times,—how instructive to the hundreds of thousands of annual visitors! Here is the first invention that led the way to the great profit in cotton raising, and those that mark improvements in the manufacture of fabrics of wool or cotton, and machines of iron and steel and wood. What stories they tell of the human brain! What way-marks are they of human progress! From this office is issued also weekly a bulletin of patents granted, illustrated with drawings and fully described in the text, which are systematically distributed through all the congressional districts. For its own technical use and that of those seeking similar information, it has a library of over 40,000 volumes relating to science and its applications.

Here also is the administration of Indian affairs, in which there has always been a quasi acknowledgment of the advantage of educating Indian children, but by the indirectness of the methods adopted and the general indifference to the subject till within a recent period, the large sums expended are no indication of the meagre results secured. But since the whole policy was changed by General Grant, there has been a steady advance in the care with which all expenditures for Indians have been made, and a larger proportion of them have been devoted to education. Under Mr. Schurz a notable step, led by Captain Pratt, was taken in the direction of industrial education, at Hampton, Va., Carlisle Barracks, Penn., and Forest Grove, Or. The present Secretary, Hon. Henry M. Teller, in connection with the Commissioner of Indian Affairs, has endeavored to turn the great Indian expenditures almost wholly in the direction of education, declaring that if all the Indian children for a few generations could be educated, not merely in books, but industrially, in matters of conduct and behavior, and prepared for the discharge of the daily duties in life, our Indian difficulties would pass away and Indian wars cease forever. How much these efforts for the industrial education of the Indian have done to inform educators and the public generally of what is possible in this department of instruction, is beyond my power to tell. These experiments shed a flood of light upon what could be done for the education of the children of the colored people, now almost wholly neglected on the remote plantations.

Through this Department, it should be observed, the General Government keeps up its connection and discharges its responsibilities with reference to the territories. Here the reports touching all the features of their administration, including education, are received and published.

In this Department, also, is the administration of the great Geological Surveys that are employing such a large number of scientists, and doing such a magnificent work, both in the States and territories of the country, out of which comes such a vast amount of material, instructive to the people of the land in topography, geography, mineralogy, climatology, and various other departments of science that so closely connect themselves with every-day life. Their reports, full of scientific observations and information, most carefully compiled and illustrated, are an acquisition for any library.

The census, which was at first in the State, is now in the Interior Department.

Having their connection with the Government, through this Department, are various interesting institutions in the District of Columbia,— the Washington Asylum, the jail, the Reform School for Boys, and the Hospital for Freedmen, from which the Medical Department of Howard University derives such important clinical advantages. Through this Department, also, the National Deaf Mute College has its connection with the Government, and receives its annual appropriation of fifty thousand dollars, which entitles each congressional district to the education of its representative deaf mute after he has been sufficiently taught in his State institution. This college,— let it be said to the honor of its founders, and to the honor of Congress,— is the first institution in the world to furnish this grade of instruction to that class of unfortunates who must live apart in their own world of silence shut out from communication with their fellow-men through that marvelous medium, the human voice.

In this Department the Bureau of Education has its official home. Thus, without any special transition, I come to speak of what the Government has done directly for education ; and if space permitted, it would be interesting to return to many offices already mentioned, and trace the instruction that goes out from them directly for the benefit of the people. At each library of Department or Bureau we should need pause to describe the cataloguing and indexing, and the manifold uses of their books by scholars and experts. The extent to which the authors of books and writers for newspapers and magazines are indebted to these Government sources of information is the more difficult to trace, because so generally Government works are

considered common property and no acknowledgment is made. Moreover these works, however valuable, are often omitted from indexes of subjects and are altogether without paid advertisement.

Thus it appears how far the organization and action of the General Government are removed from those of a paternal government on the one hand, and how on the other hand they differ from that of a mere sheriffalty (shrievalty). From these brief statements we cannot fail to see that its quickening influence has been felt in every department of thought and action, and yet where has it dwarfed or paralyzed or diseased the action of private individuals? Where have its efforts been other than healthful and stimulating, and may I need add, useful? For if these great informing characteristics of the Government should be blotted out, affairs might drift on under the impulse already created, but how speedily their lack would be recognized and their absence deplored! How keenly would be felt the impossibility of continuing our Government for and by the people, our institutions of liberty, our varied vocations, our science, art, literature, and life! But it is already apparent that in connection with the indirect informing influences that flow from the current administration of national affairs, there is also a vast amount of activity that is preëminently for the purpose of informing the people. Every library already enumerated is in itself a direct educational agency. All the publications of the Government Printing Office are for the information of the people.

More closely connected with the Interior than any other department is the immense establishment in which the Government printing and binding are done. It has grown from its small beginnings, in 1852, until it now ranks in the extent and value of its equipment and the number of its employés among the leading offices in the world. The varied character of the publications of the Government would overtax the resources of any establishment not of the very first class. Intricate mathematical work has to be done for various offices; rare types must be obtained for monographs which the Government publishes in regard to Indian languages; and treaties and foreign correspondence are placed at the disposal of the State Department in accurate form and in the original tongue. But the office is also called upon to execute with the utmost dispatch, and with the highest attainable accuracy, the great volumes of work called for by Congress and the several Departments. In 1881 the printing-office prepared over half a million (502,801) pages of types for books, which were printed to the number of nearly eight and a half millions (8,466,333). This is entirely exclusive of blanks, blank books, etc.,

and of the Congressional Record. You will be in a condition to estimate the celerity with which this work is performed when I tell you that a book of 1,400 pages was begun and finished within three days. Again, in the recent Star Route trial, the record of a day's proceedings amounted to 434 printed pages. The copy was received about six in the evening, and the completed book was in the hands of the judge at ten o'clock the following morning. Possibly the office may not equal the printing-house of Austria in the polyglot character of its publications, or that of France in historical interest; but it is clearly one of the best equipped printing-offices in the world, and a monument of that practical sagacity in administering affairs which has placed the United States in the fore front of the civilized nations of the globe.

There are those who object to all this expenditure in printing as so much waste,—as a business that does not belong to the Government. They would have all the printing done by private parties, and all the books sold as they are under monarchical and other forms of government; but the effort to have the work done by private parties was long tried in many ways, and the present method has been found far superior in economy, uniformity, and efficiency. Doubtless there could be improvement in the ratio of distribution for different documents, but it must be remembered that ours is in no sense a paternal government; our officers are not over the people as parents; they are the servants of the people, expected to render an account for their stewardship; and the day has not arrived when an American citizen is ready to pay either the officer or a third party for the report of the service the officer has rendered. By the present method of publication at the expense of the Government, making all Government works freely accessible to the citizen, there comes the publicity that is so great a safeguard in the workings of our institutions or of any representative government. Woe betide the day when the people become indifferent to what their representatives say or their executive officers do!

Now look at the decennial census that the Nation takes under the Constitution. Once it was a bare enumeration of the population and of the males capable of bearing arms. Now it is the periodical ascertainment of every material and moral force possessed by the Republic that can be expressed in numerals. It forms a vast storehouse of facts respecting every class of the community, every kind of industry, every sort of property, every condition of intelligence, from which the philosopher, the historian, the legislator, and the economist can draw needful information for the prosecution of their public and

private labors. It is no longer a summing up of human hordes and the raw material of war; it is the wise survey of our own affairs for our own good and the information of posterity.

Nor is the work of the Bureau of Statistics, in the Treasury Department less useful in its way. Here the tonnage of our vessels, the traffic of our commerce, foreign and domestic, the immigration to our shores, and similar subjects are carefully studied and reported. It would indeed be well if every great executive department of the National Government had some such office in it for the consideration of the subjects of which it has charge.

The Bureau of Education, in publishing its reports, circulars, and bulletins, is only following the example set by the other Departments and Bureaus of the Government. It differs from some in distributing these publications more widely, and from others in distributing them systematically. But the principle of informing the public as to what is being done is the same here as elsewhere, excepting that with respect to education it is simply an office for collecting and disseminating information. To add to its efficiency it has a museum, filling one story of its building, containing illustrations of educational conditions and appliances. It has also a library of 14,000 books and 35,000 pamphlets; an author and subject-catalogue of the library is in course of preparation by which every book and article treating educational progress or methods may be traced. With very limited means and a small force of assistants, aided generally by the teachers and school officers of the country, this office has issued an annual report for a series of years, various special reports, circulars, and bulletins. Its correspondents number about 20,000; its information from foreign countries is very full. It receives in a single year as high as 30,000 communications, and has sent out 67,000 and distributed over 300,000 documents.

The Interior Department and its Bureaus have issued more than 1,200 reports, books, pamphlets, circulars, etc., and of this number the Bureau of Education is responsible for about eighty. This is the teachers' own office, created in response to their request and administered in compliance with their wishes as expressed in their conventions. It is not necessary to say more now about the place and purposes of this office as a national organ of information.

The Department of Agriculture is one great school of instruction through all its varied laboratories and all its divisions of statistics, entomology, botany, chemistry, forestry, and microscopy; through its propagating garden, its seed division, its library of valuable works gathered from the civilized world, touching all the subjects of in-

terest in the department; and its museum illustrating all the economies of agriculture and its soils, agricultural appliances and methods, is one of the most visited at the Capital. Its annual reports are published to the number of three hundred thousand copies; its monthly and special bulletins and reports are greatly sought by our farmers and those directly engaged in handling farm products. The great work assigned it more than deserves the increasing appropriations, that already reach $425,000 annually.

The Smithsonian Institution, of which you have heard and read so much, was founded in 1846 by the bequest of the English scientific man whose name it commemorates. The United States accepted the bequest, and created a corporation to manage its funds. When, by an error of judgment, those funds had been invested in State bonds that were repudiated shortly after, the United States replaced the lost money, so that the Institution to day, while bearing the name of its original benefactor, is in reality supported by the income derived from the Nation's money. Most nobly does it serve the purpose for which it was founded, "the increase and diffusion of knowledge among men." Its annual reports, contributions, and miscellaneous publications have been sent to every important library on the globe, and by its well-managed system of international exchange both the national library at Washington and scores of other collections in all parts of the Union are yearly enriched with the publications of foreign societies and governments. Indeed, so great has this work of exchange grown that it costs the Institution more than $7,000 every year, and it has been proposed that a Bureau of International Exchange, managed by the Smithsonian, under the supervision of the State Department, be organized. This, however, is but a small part of the work stimulated or assisted by the Smithsonian. For many years its former director, Professor Henry, was the soul of the Lighthouse Board; for several years its present director has been the chief of the U. S. Fish Commission, which has done so much for science and for human comfort and national wealth. Almost ever since its foundation the Institution made meteorological observations and published the data accumulated, and from these General Meyer and Dr. Abbe obtained the groundwork on which the Signal Service of the Army has done its great work elsewhere mentioned. The Smithsonian long ago was made the custodian of the National Museum, and into this the geological, geographical, and ethnological surveys and expeditions of the Government have been pouring their priceless accumulations, until a new building has been erected to hold them. Still further, the linguistic and material collections relating

to the American Indians have become so astonishing in value and variety that Congress authorized the establishment of a Bureau of Ethnology in the Interior Department to work in connection with the Smithsonian and the Museum, so as to bring out the results of this direction.

Thus far I have made no allusion to the policy of land-grants, in accordance with which the United States is understood to have done most for the promotion of education and the increase of intelligence and virtue among the people. It is well known that certain colonies were accustomed, in organizing towns and townships, to set apart portions of land in aid of schools, the church, and the clergy. In the Congress of the confederation, Mr. Jefferson was chairman of the committee that in May, 1784, made a report on the organization of the western territory, which provided "that there shall be reserved the central section of every township for the maintenance of public schools, and the section immediately adjoining the same, for the maintenance of religion." The ordinance as adopted on May 28th, 1785, read: "There shall be reserved lot No. 16 of every township for the maintenance of public schools." The ordinance in its final form as passed in 1787 prohibited slavery, required the encouragement of liberty and morality, and set apart the 16th section in every township of public land for school purposes.

Webster, referring to this great act of patriotism, remarks: "We are accustomed to praise the law-givers of antiquity; we help to perpetuate the fame of Solon and Lycurgus; but I doubt whether one single law of any law-giver, ancient or modern, has produced effects of more distinct, marked, and lasting character than the Ordinance of 1787. It fixed forever the character of the population in the vast regions northwest of the Ohio." This great grant has shed its benign influence upon every State since organized, and the total amount of money reported as realized and now in hand, mainly from this source, in these several States reaches nearly seventy-one millions of dollars.

But the care of the fathers for education did not stop with common schools. When Ohio was admitted as a State it received 69,120 acres for superior instruction, and a similar policy has been pursued with other States. The great universities of Michigan, Wisconsin, and Iowa are examples of the results of this university grant of land, amounting in these States to funds, now in hand, reaching to $6,720,000.

Later, when the question of introducing scientific, technical, or industrial education arose, there followed the great land grant, out of

which have sprung colleges of agriculture and mechanic arts in the several States, whose funds, arising mainly from this source, now amount to $4,802,000.

The total of these several large grants for education are put down as nearly seventy-nine million (78,659,439) acres, or more than twice as many acres as in the whole territory of England and Wales (37,324,883). A vast amount of these lands are only assigned and not yet sold, so that it is impossible to state what they will ultimately realize in dollars and cents. By various laws a certain per cent. of the sale of lands by the General Government in the new States, has been turned over to these States, sometimes reaching five per cent. of the whole. Under this provision, Illinois received, from 1821 to 1869, over seven hundred thousand dollars. In some of the States these incomes were assigned to the school fund. In quite a number of the States large grants of swamp-lands have been made over to the States, out of which, also, by the action of the several legislatures, has come a very considerable increase to the school funds; how much it is impossible to determine at present.

In addition to these various aids received from the United States for education by the several States, there have been a large number of special grants, as for instance 480 acres to Lafayette University; 160 to the Holy Cross Mission; over 22,000 for the education of the deaf and dumb in Kentucky; 400 to the Pine Grove Academy; and especially large amounts to several towns in Missouri.

In 1836 there was a large surplus in the Treasury of the United States, and an act was passed providing that a definite amount of this should be deposited with the several States in proportion to the number of members of Congress. The total was over forty-two millions, of which three installments were turned over. The fourth installment was not paid on account of financial embarrassments. The amount received was $95,584 for each member of Congress. These moneys were all held in trust to be paid on call to the United States. A number of States set apart the amount received as a fund, the income of which was to be used for the schools. This was done definitely by Alabama, which received over $669,000; by Georgia, which received over $1,051,000; by Illinois, which received over $477,000; and by Indiana, which received over $552,000; $850,000 of the share of Kentucky was set apart for this purpose; Louisiana granted a considerable portion received to the colleges of Jefferson, Lousiana, and Franklin, and the Covington Female Academy; Maryland and Pennsylvania, after paying out of it the public debt, set apart a portion for the benefit of education; Missouri and New York

set apart the whole amount for common schools; North Carolina transferred $300,000 to the literary fund; Ohio provided that the net income should be used for the encouragement of schools, and Rhode Island did the same; Tennessee set apart her share as a school fund. A number of States distributed the amounts received between counties and towns, and allowed the money to be used for school or other purposes, at their option. How much thus went to schools it is impossible to determine. The whole amount distributed was twenty-eight million dollars. How largely this great supply of money became a factor, contributing to the success of the revival of education at that period, no one can calculate.

Congress, touched by a humane effort to introduce education for deaf mutes in this country, gave 23,000 acres in aid of the establishment of the first institution at Hartford. Moved by a similar sentiment for the blind, it has recently set apart a fund of a quarter of a million, the interest of which is to be appropriated for the printing of books for the blind, which are to be divided equally for the use of the blind in the several congressional districts. These books already in the several States constitute valuable libraries for the use of this interesting class, shut out from the usual sources of information.

But I have not time to dwell upon the splendid school at West Point for the Army, or that at Annapolis for the Navy. Indeed, in closing, I can only mention that last special action of the Government for the organization of the Civil Service Commission, intending to examine more critically into the qualifications of those who enter the classified service of the Government, and thus to place a premium on good attainments and good character, and therefore impart new stimulus to the instruction of the people throughout the land.

THE IMAGINATION.[1]

BY A. P. MARBLE.

The subject to which attention is here invited may seem, from the title, to be some metaphysical or psychological discussion in the realm of the abstract and the comparatively unknowable, but such is not my purpose. I hope to keep within the limits of what may be seen in the school-room daily by every intelligent teacher, and to confine myself to what we all know, leaving speculation and psychology to people better able to deal with such themes. But in teaching we have to do with the mind; and the mental faculties are connected with the body so intimately that the two must always be together;—we know very little about disembodied spirits. In reflecting about that upon which we as teachers ought chiefly to work,—the mind,—we must of necessity consider it in its different manifestations, as the memory, the judgment, etc.

Object-teaching,—objective teaching, as some call it,—hasformany years engrossed the attention. Everybody feels sure of getting the public ear if he emphasizes what he has to say by labeling it "Object-teaching." Number must be studied by the beginner with blocks and marks, by tangible objects or visible things only. Geography must begin with a map of the pupil's desk or a table; and then go step by step to the map of the room, the school-yard, the neighborhood, the town, and so on; and not content with maps and pictures, we invent the relief-map, which shows the elevations and depressions of the land; and we even build little hills and mountains of sand on a blue table to represent the water; and astronomy has been taught, the planetary system at least, by representing the sun,—the center of the system,—by a bright and fair-haired girl, perhaps; and the planets revolving about the sun by boys of different sizes, all walking around the central figure in orbits greater or smaller; and certainly the attractive force, in such a device, is well illustrated.

Now all this object-teaching, as a protest against the dull memorizing of facts, which are not at all comprehended by the pupil, is a move in the right direction, and too much cannot be said in its praise. It is the substitution of real things for empty words. It is teaching

[1] An address delivered before the Worcester County (Mass.) Teachers' Association, at Gardner, near Mt. Wachusett.

instead of cramming. It is the awakening of live interest for dead drudgery with the forms of things which possess no sort of interest for the pupil. So far object-teaching should be practiced; it ought to be commended; but it should not be worshiped as the all-in-all, After saying the above, and with all that has been said and all that it implies fully in mind,—for it must not be supposed by any possible misconstruction of the words that anything here said is in opposition to object-teaching,—with all this in mind, let me say that there in a point in the training of a child where object-teaching, strictly followed, becomes a serious hindrance, and where it ought, partially at least, to be abandoned. It may even become an intolerable nuisance. It may be so used,—I am sure it often is so used,—as to obstruct the child's real progress and cramp his mental growth, as a tree is deformed by growing in the crevice of a ledge or crowded between two great rocks.

The real purpose of object-teaching is to fix the attention upon solid facts; to cultivate the perceptive faculties, — the power of observation, or whatever we may call it, — and then through this, and higher and above and beyond it all, to develop the reason and the mental powers. It is of comparatively little use for a child to perceive if he does not make some rational use of his perception. A dumb creature can perceive. A pet cat can see better than a child; the dog has a much better sense of smell, and his hearing is more acute than the child's. There is something in the child, however, which these interesting creatures have not. It is this something which we wish to cultivate. If we allow the object-teaching to stop short of developing this higher faculty of the child, we leave him inferior to the cat and the dog in those faculties which we have been cultivating; and if we perpetually and incessantly hammer away at the doors of the senses, — in other words, if we have nothing but object-teaching,—we fail to reach the holy of holies of the child's mind, that higher being, distinct from the intelligent brutes; and it is possible for us to surround the senses with such a heap of the rubbish of material things that the mind within is imprisoned as with adamantine walls, when we ought to have opened the door that the spirit may go free. It is in this case that the object-teaching will have become a nuisance, a delusion, and a snare.

What made those great men, Abraham Lincoln and James A. Garfield? It was not object-teaching in any technical or exaggerated sense. It was the contact of a fresh and intelligent mind with the real things of nature, and something more, — thought, reflection, self-communion. It was the few facts worked over in the mind.

Hence, Abraham Lincoln, reading his Bible and Shakespeare by the light of a pine-knot, became more of a man than he would have become with all the books, full of all the "*ologies*" and the best of modern teachers, if those teachers were to fill up the time with never-ending talk, talk, talk, and book, book, book, — leaving no time for the boy to think.

It is this something which the boy may have, and which the dog and the cat have not, to which I wish to direct your thought, and for want of any better name we will call it the Imagination; and to the development of this higher faculty, and only so far as it tends to this development, is object-teaching valuable. Yet, I fear, we often stop short of this end, and lose sight of the aim in the pursuit,—in other words, object-teaching often becomes an end in itself, and not a means to an end. If so, it is an arrant humbug!

Imagination is, I suppose, the making of pictures in the mind. As contrasted with memory, it is the combining of images in the mind in a new form. We remember to have seen the head and horns of a cow in their appropriate place upon the animal herself; we may imagine this same head upon the body of a horse, though we have never seen one so placed. Similar rearrangements we may make of the ideas we have, which are not derived from material objects.[1] In the illustration above, the creature of the imagination is grotesque,—an impossible animal, so far as we know, in this neighborhood; but, on visiting a menagerie, we may see the horned horse, which is something like the creature of our imagination. The creation of the mind, however, is no more real because we afterward happen to find some created thing to correspond with it; nor are these creations of the imagination any the less real because the corresponding objects are never afterward discovered. The grotesqueness is not at all a necessary quality of the creations of the imagination; it is not more frequently found in the product of the imagination than it is found in nature. We occasionally find abortions, deformities, malformations in nature, but these are the exceptions and not the rule. In the products of the imagination the grotesque is likewise the exception and not the rule.

It is necessary for me still further to define the meaning of the term "imagination"; for, as frequently used, the term means only that which is unreal, unsubstantial, and without foundation. The

[1] "Righteousness and Peace have kissed each other." Thisis figurative language, personification, and all of the imagination except the act, which is a pleasant memory. "Perfect Love casteth out Fear." If these instances do not show the correctness of my statement, the "Fourth dimension" of solids, which some person has imagined, must.

word is often used to denote mere fancy, — the vague and ill-defined shapes that flit across the field of the mental vision like the shadows of fleecy clouds across the landscape. In this sense the word is a symbol of the unreliable, and hence the word has come to have a doubtful meaning. This is not the sense in which the word is here used. When you stand before a highly polished mirror, O my beautiful friends, there you are a corporeal existence,—with flesh and bones and blooming cheeks, and flashing eyes beaming with intelligence,—and fashionable and well-fitting clothes, let us hope. There is also an image of yourself in the mirror, if the lights are turned on. This image cannot be touched, nor heard, nor tasted, nor smelt; but it can be seen. It is not material,—except as the particles of light are material,—but it can be seen; and in this sense it is just as real as the body itself which causes the image. So the products of the imagination are to the mind as real as this image is to the eye. Imagination, then, as a faculty of the mind, is not less concerned about realities than memory or any other mental faculty; it is not less a reality than the sensations or mental states that are produced by external objects through the organs of sense.

Again, there is the poetic imagination, which has to do with sentiment, emotion, feeling. We more frequently use the word in this sense, perhaps. It is hardly necessary to say that this is not what I mean; for this has to do with the artistic,—with the beautiful creations of a poetic fancy, as displayed in verse and song; with the conceptions of a fine literary taste, or the great works of painters and sculptors.

The imagination which I am talking about is a much more common-place, a much more universal, and a far more useful and indispensable affair. The imagination, as I use the term, in its broader significance, is a faculty just as common as the memory; it is not less useful than the memory: for in all mental activity it must be brought into play; without it there can be no real mental growth. More than any other mental faculty, it distinguishes man from the brute creation; for a horse remembers, for example, that certain acts of his result in pain inflicted by the whip of his master; and reason, which is sometimes called the distinguishing trait of human beings, cannot be carried on without the aid of the imagination. In the syllogism, which is the simplest form of reasoning, we derive a conclusion from two premises. For example: all birds have feathers; this animal is a bird; therefore this animal must have had feathers. Here the conclusion is derived from the premises; but before it was thus derived, the maker of the syllogism must have anticipated the

conclusion by an act of the imagination; he must have projected his mind forward beyond the facts then before his mind to a conclusion not yet reached,—just as a temporary bridge is thrown forward across the stream in advance of the permanent structure, by means of which alone the permanent bridge can be built. The imagination, then, is made use of even in reasoning. In this broader sense there is nothing which we do, mentally, without the aid of the imagination. I am here talking to you; you sit there and listen patiently. Many of us were never in this room before; but we all came here, mentally, before we took the train this morning. It appeared to me, in a vision of the mind, after the program was published, that here would be, perhaps, a pulpit and a lecture-platform in front, on which I should stand; that a patient and respectful audience of teachers and a few curious individuals of the town,—curious to see what these teachers have to say to one another,—would be before me; that the president would introduce me in a few well-chosen and commendatory words; and then that I should stand up, clear my throat, take a sip of water, and begin.

I saw that some people would come hoping to hear the interesting papers on arithmetic,—papers having an existence only in the imagination; for those prepared for last June were read elsewhere, and were not available for this meeting; and that after hearing a few words of the paper on that abstract subject, the Imagination, they would quietly steal away. I was here, you see, yesterday; and you were here also, in the same sense, or you would not be here to-day; for, when you read the announcement of the meeting, and the conditions on which you could come, you made the journey in imagination, to see whether it would pay to put in a bodily appearance. Those who had attended such conventions before came to a place almost precisely like this; others visited a place somewhat different, but just as real to their minds. You all liked what you then saw that you were to meet, and so you are here. Others in their imaginary visit, — and they all made a visit to Gardner, consciously or unconsciously,—others found that the imaginary cold dinner which they ate from an imaginary basket, in an imaginary hall, notwithstanding imaginary hot coffee was passed around by beautiful and benevolent imaginary ladies of Gardner, young or older, — that this cold dinner and the fatigue incident to sitting in the imaginary vestry of the Congregational Church, and working so hard to listen to the speakers whom they heard,—the real speakers do not tire you, of course,—saw, as I was saying, that this fatigue and the cold dinner, and, perhaps, indifference to the whole thing, gave them a tremendous

imaginary headache, and so they are not here to-day. Of course, many who came here yesterday are not here to-day because they could not come; but some are here in spirit, whose forms we do not see.

In looking back a few pages I find the word imaginary,—"imaginary hot coffee," for example. The word has been so prostituted by common usage that it does not express what I mean. *Imaginary* signifies *unreal.* What I have referred to is real, as a mental act; and *imagined* would be a better word. People of Gardner, did you know that all the teachers of Worcester County have visited you within a week? And, O walls of this vestry, did you take note of the silent company that came to look into this convention, and paid no railroad fares? Did I seem to you as I now appear, when yesterday I stood in this place? and did the president sit there, with his legs crossed? We come here in imagination, then, or we should not now be here in body. Now, what is true about this simple act of coming here,—the visit in imagination first,—is also true of every act of our lives; we live and move and act by the constant exercise of the imagination,—the imagination in its broader significance.

What is here meant by this broader sense of the term has already been explained and illustrated to some extent; but I will be more specific still. The carpenter who builds a house pictures in mind the structure in all its parts before he strikes a blow. He is aided in making this mental picture by the plans and specifications and elevations made by the architect; and so each step in the progress of the work advances the building stage after stage, and nothing has to be done over again. The blacksmith puts his iron into the fire and blows his bellows, and while he blows and watches the reddening iron, there is in his mind, consciously or unconsciously, a picture of the horseshoe, or other piece of work, which he is to hammer out; and every blow brings him nearer to that result, if he is a skilled workman. If you stand watching him, you may not discover what he is driving at, at first; but if you watch the same process many times, or if the process has been thoroughly explained to you, then you will see the same picture which the blacksmith sees; in this case you have been taught so much of the blacksmith's trade.

In one of the newest and prettiest churches in Worcester there is a stone arch spanning the space above the chancel rail, and the arch is supported on either side by a stone buttress, or column, built into the corner of the wall. These columns have ornamental capitals carved in stone; and the columns that support the arcades along the sides, and the corbels in the walls from which spring the arches of

the side circles, and the stone cornices, all have upon the underlying forms a tracery of vines and fruit and leaves, richly ornamental. In the building of that church each block of stone that was to form this ornament was finished in all its other parts before it was set in its place; but the ornamental portion was left in the rough. In my ignorance I wondered why this was not finished like the rest; and in my imagination I did not see the beautiful forms which are now to be seen. The architect, however, had seen them all; they were represented on paper before the stone was quarried; but after the building was approaching completion, when all danger from handling the heavy timbers and lifting other stones above them was over, then a skilled stone-cutter took the architect's drawings and from them learned what the ornamental forms were which he was to carve in the stone; and seated on a rough staging within the edifice, with chisel in hand, he wrought out the idea which was in his mind. He saw the ornamental forms, the birds and fruit and flowers in the rough stone, just as plainly as we can now see them cut out upon the columns and corbels and cornices. Without that picture, distinct and well-defined, in his mind, every blow of his hammer might have spoiled the stone. To form those images in his mind by the aid of the drawings which represented them, and then to cut these forms in stone, was his education. It took many years to learn how to do it. His was skilled labor; it was worth much more per hour, because of the rarity of such skill and the cost of acquiring it, than the work of an unskilled laborer who only handled the rough stones that were placed in the foundation-walls. Notice the imagination of the stone-cutter. He could not measure and mark out the pattern upon the stone, except roughly, and cut by line. He wrought after the pattern which his imagination presented to the mind.

Is not the imagination, in this view, a very different thing from that which we mean when we use the word to represent what is not real? "The equator is an imaginary line, passing around the earth from east to west, equi-distant from the poles;" a line that has no existence; hence we are accustomed to think the imagination deals with that which is without an existence. But the imagination of the stone-cutter is a reality,—as real in his mind as the image of your own face is in your eye. He proves the reality of his images by cutting them in the stone. You prove the certainty that the image in the mirror represents your face, by moving a little curl on your forehead, or changing the dimple in your laughing cheek, or by touching your nose with the forefinger.

Enough has now been said, I trust, to make it clear that the imag-

ination has to do with realities, and that it is actively present in work as well as in writing poetry or stories; in other words, that the imagination is a very common, every-day affair, and that it is always necessary in all work, both intellectual and manual.

This important, ever-active, creative faculty of the mind is to be cultivated in the schools. It is the aim of these remarks to aid you in cultivating it. Impressed now with its importance, let us see briefly how this may be done, at least suggestively, if not very explicitly.

As intimated above, most of the child's first ideas,— images in the mind,— are obtained through the senses. With these we begin. We teach numbers by the use of blocks, for examples. A single block, we call one block; put another with it, and we call these two blocks; another, and we call them three blocks; and so on to ten. Now we take two blocks and place them here; and two more blocks and place them there. The child is then asked how many there are in all together; and by counting them he tells us there are four blocks. By continuing for a short time with such combinations as this, he will readily master all the combinations with numbers below ten; and by a similar process of taking away one or more blocks from a larger number, he will soon learn to make all the subtractions of the same numbers which he has previously combined; indeed the two processes should be carried along simultaneously, and side by side. At this early stage, a new idea must have entered the child's mind,— the idea of putting together and of taking away or diminishing. This new idea has not entered his mind through the senses, in the same sense in which the idea which he expresses by the word block has entered his mind. It is therefore, to some extent, an abstract idea, and is the product of the imagination. It is the duty of the teacher to watch for the evidences of such a conception in the child's mind, and then to treat that idea just as he treats the idea of the block; to talk about it in a simple and easy style, to give it a name, and to familiarize the child with the offspring of his imagination. Putting together or taking apart is an act. A child conceives of an act as readily as he conceives of a thing; and it is as easy to give a name to an act as it is to name a thing. When the child surely has the idea then he is ready for the name which represents that idea; and if he really knows what the process is, he may as well call it addition then as at any future time. Of course the great danger is in going too fast with these names of abstract things; but the danger is not all on one side; we may go too slow; and the pupil may have a number of these children of his imagination without names; and

these children may get "mixed up," like Little Buttercup's foundlings, much to the confusion of the owners.

Children are often ready for the appropriate names of their ideas before we are aware of it; and long names do not stagger them any more than short ones, if these names stand for definite ideas. I once knew a little girl who had played with porcelain dolls and wax dolls. By dint of much pounding, and by the effects of heat upon the wax, she perceived, very soon, the perishable nature of this kind of property. Her mother bought her a doll made of papier maché, which was called indestructible. The battered and scarred face of this creature soon attested its durability, and the child of three years old habitually called "it the indestructible doll." A three-year-old child with a five-syllable word; and she handled it as easily as any other word, for it was the name of an idea; and this idea was the product of her imagination.

In place lessons, also,—the beginning of geography,—the imagination comes into play very early. We place a few objects upon a table, and give names to the places they occupy; as, upper left-hand corner, lower right-hand corner, center, middle of the right side, etc. We next make a drawing of the table upon the blackboard, and represent the objects by rude pictures. Here is work for the imagination at the start: to conceive that this drawing and these rude pictures represent the real things before us. But the child is ready for such work. Has he not represented a span of horses harnessed to a carriage, by his father's boots, and tow string, and a chair?

Very soon, that is by the time we have gone beyond the schoolyard in our representation of places by maps, we must rely wholly upon the imagination for pictures in the child's mind of that about which we would teach him. The boundary of the town, for instance; who has ever seen it all? No child, certainly, and not one in a thousand of the grown people. In this study, there is little else besides the forming of correct pictures of places, people, and products, in the child's mind; and the teacher should incessantly watch to see that these pictures are formed, and test their accuracy. Maps are good; globes are useful; map-drawing helps; and even moulding mountains, peninsulas, and other natural divisions, may more than compensate in clearness of conception for the time consumed. But with all this there is a danger; and the more elaborate the apparatus, the more care taken with the illustration, the greater the danger. What if the accuracy of the map-drawing is so great that the child forgets to notice, or to imagine, that which the map is intended to represent? What if, in moulding mountains in sand, so much care

is taken that the child fails to imagine what the real mountains are like? What if, in examining the globe, its names and meridians, its parallels, its colored oceans and continents, and above all its elaborate mountings,— in examining and naming all these, what if he fails to imagine what the earth is, and how it moves? and he can know about it only by the aid of his imagination.

Here it may be in place to observe that costly and elaborate pieces of apparatus like object-teaching, and patent methods, and the "new teaching," may be so dwelt upon that they eclipse the thing they are designed to illustrate, and by over-teaching teach nothing. The child wants time to form images in his mind, and to recognize and work with them,— to exercise his imagination. We are liable to dazzle with brilliant representations of things unseen, and thus to obscure what we would make plain.

It would be interesting to remark upon the boundless field for cultivating the imagination in all reading, from the first steps to the last; in history, which is nothing without these mental pictures of what has long since passed away; inthe advanced arithmetic, where the first thing, after stating the conditions of the problem, is to form a theory of what is next to be done,— this theory being a product of the imagination, and in language which rests upon the imagination; and, in short, in every branch of every study in every school of every grade. But time fails, and your patience must have a limit.

In each study to which pupils devote their attention, all the facts brought forward, and all the efforts of the teacher, are subsidiary to the activity of the mind; for it is the mind that we are training, however it may be necessary to use objects and material things to produce this effect, to wit, the training. And in all that any teacher ever does for his pupils, this aim should be constantly before him. The dawnings of intellectual power, the shooting forth of new capaccities, like twigs and leaves and branches from a tree in spring,—this is the product for which every teacher should be looking; and this is how the growth proceeds. From the facts presented, from the things known, which the skillful teacher presents in their proper relations and so as to be suggestive, the pupil s attention is directed to something beyond, as yet unseen, and by an effort of the imagination his mind projects itself forward beyond the limits of what is known to him. He thus plants his feet upon new and solid ground, and the boundary of his knowledge is enlarged, and his power of still further enlarging his field of knowledge is augmented. The successful teacher helps him as easily as the old eagle teaches her young to fly;

and the teaching is for the purpose of the future flying. The mother-bird does not labor merely to transfer her young from bough to bough; she might much more easily carry them upon her back, if that were all. She labors that her young may acquire the ability to fly themselves. So the efforts of all true teachers are directed not merely to the acquisition of knowledge by their pupils, but to developing in them the power to acquire. And as the imagination is a necessary agent in this power, the teacher should watch unceasingly to see what pictures are in the child's mind, to see how he uses those pictures, and to seize each opportunity to present new ones.

I have thus far endeavored to explain and illustrate to you the nature and the uses of the imagination,— the philosophic or scientific imagination, as it may be called,— and to show how it comes into play in the activities of life, with the carpenter, the blacksmith, and the stone-carver; and how it must of necessity be active in all intellectual pursuits, and in every study at school. And I have hinted at the brilliant imagination of children, and suggested that this faculty should be cultivated, directed, controlled, but never suppressed. This is the commonplace, every-day, ever-present faculty which, like memory and judgment, is of daily use.

It remains for us to speak briefly of the poetic imagination, which is of later growth, in its higher forms, and which contributes to our pleasure, and is a source of exquisite enjoyment. In this form the imagination may furnish each one of us with almost infinite satisfaction. We may not possess wealth, and we may not be able to see with the eye much of the beauty there is in the world. But there is enough within our reach to delight us; and in imagination we may see it all, while our poor brother who travels the whole world over and spends more money yearly than any one of us will ever see, may miss all the beauty and most of the joy, because he has not imagination.

It is the summer vacation. All the noisy children have gone off for two months of frolic and play. Weary and exhausted, we have left work behind. Go with me to the top of Mt. Wachusett. Any one can go there. Let us seat ourselves upon a rock on the summit. It is morning. The cool breeze fans the cheek, and drives away all thought of the sweltering heat of the day before. We are filled with the freshness of childhood. Lift your eyes and look around. On the north, with rugged lines projecting on the sky, looms the majestic form of Monadnock. Stretching to the northeast is the blue line of hills; and away beyond, dimly distant, is seen Mt. Washington, surrounded by the lesser peaks, Jefferson and Adams, and the rest, as

the patriots in early days were wont to stand about the hero of the Revolution, with their council and support. To the east, with lake and valley, hill and dale in picturesque combinations, the landscape stretches far away to the misty ocean. The Arlington heights rise like little hummocks above the level line of the horizon. The monument at Charlestown, reminding us of what we owe to the fathers of the republic, is seen as a mere speck on this great field of nature's work, and the gilded dome of the State-house suggests the glory of this ancient Commonwealth. To the south, there is a no less enchanting prospect. The lakes cluster among the hills and hide in the shadows of their borders of forest trees. On hillside and in the valleys, cottages shine in the sun and flash upon our minds visions of the homely joys which they conceal. Farm-houses, with spacious barns, and factories with smoke-crowned chimneys, tell their tale of thrift and frugality and prosperity. Nestled among her cordon of hills, the capital city of the county speaks of commerce, manufactures, enterprise; and her towering chimneys, like altars, are steaming with the sooty incense of Industry,—and we are on the mountain-top, far from the din. To the east, irregular as crested waves and zig-zag, now approaching, now receding, is the line of highlands that divide the rich valley of the Connecticut from the waters of the Nashua and the Merrimac, the Charles, the Blackstone, and the Quinibaug. And all this region, from horizon to horizon, like an amphitheatre, is under your eye. In all the vast circumference there is not one spot which is not full of beauty; and all this beauty is yours to enjoy, if you have but the imagination to enter into the heaven that invites you.

The county is peopled with an industrious, intelligent, and happy population. In ten thousand happy homes, fathers and mothers are busy with the work that brings their beloved children bread. The children gambol in their light-hearted joy-in-existence, and take from their parents' toil its burdens. Within the compass of your eye, architecture has displayed itself in many a noble and enduring structure, the temples of religion and learning, and in monumentsto valor. Art and literature and science have here their place and their devotees.

Go back in imagination a few years, and you will see, all over this region which now lies slumbering so serenely at your feet, the array of marshaled hosts of patriots, with hearts bounding high as they rushed to the defense of their imperiled country. Turn back a century more, and behold the "embattled yeomen" who "fired the shot heard round the world" at Concord and Lexington; another century, and you hear the war-whoop of the savage Indians who made night hideous for our forefathers, who used to rendezvous on this

very mountain, and one of whose captives was ransomed upon one of the very rocks below you,— Mrs. Rowlandson of Lancaster.

Trace in imagination the history of a people for a quarter of a millenium, the scene of which lies spread out before your eyes; a history with its lights and shadows, but the lights far outnumbering the shadows; a people who both toiled and enjoyed, but their joys were far in excess of the sorrows; and now they are all at rest. And all this active part which men and women worked for, is ours to enjoy on this breezy summer morning upon the mountain, without our moving a muscle. And rejoicing thus in the contemplation of the life of the past, and in view of this scene of entrancing loveliness, comes the thought that we are a part of the life of the present, and our work has helped to higher things. Thus it is that the toil which we wearily fled from seems radiant as with a glory; and we descend from the mountain, as it were, transfigured.

Such pleasure is there in the imagination. You need not stop on one mountain, and that the nearest. You may visit the White Mountains, the Alps, all Europe, the islands of the sea, without leaving your own little room. An ancient warrior used to sing,—

> "No pent-up Utica contracts our powers;
> The boundless continent is ours."

We men of peace may much more sing,—

> "The boundless universe is ours;"

for on the wings of this heaven-born faculty we may soar throughout illimitable space; backward, and all antiquity keep us company and contribute to our entertainment; forward, and all posterity are our friends. Solaced by the companionship of whatever is pleasing to us, in this whole universe to which imagination gives us the key, we may rise above the petty things that trouble us; and with duty and right as guides, we may wander daily through fields of perennial delight. It is the grandeur of such a thought which Milton puts into these words:

> "The mind is its own place,
> And of itself can make
> A hell of heaven, a heaven of hell."

The mind is its own place! unmoved by conditions or circumstance or time; free in the perfect knowledge of all truth. This is the goal to which all right endeavor tends, and toward which all right teaching guides the children; but in her most venturesome flights the imagination cannot compass that end in its perfection.

"Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love Him."

THE UNIVERSITY—HOW AND WHAT.

BY WILLIAM W. FOLWELL.

[*Abstract.*]

The present state of the higher education in America can be briefly comprehended in one word,—chaos. Thirty years ago there was a college course, simple and distinctive,—the education of the gentleman and the clergyman. The good old classical curriculum has nearly faded from view ; though its thread of good still runs along the broad web of scholastic life and work.

The elective system has come in like a flood. When there is not full election of studies, there is election from numerous courses of study. This election descends into the preparatory schools, and we see youth of fifteen choosing their studies, as they choose their hats and shoes; albeit with somewhat greater independence of fashion. The elective system has been vastly extended through the competition of an excessive number of small denominational colleges, for attracting students. Here we meet the signs of a religious chaos which is chiefly the cause of the confusion in our higher education. Each sect is logically bound to undertake the conversion of mankind to its particular tenets. Otherwise it has no right to exist. Colleges and universities are regarded as a necessary part of the apparatus of evangelization. The political chaos is hardly less conspicuous than those of religion and education.

Such is the aspect of affairs as we view them, faced to the rear. Looking forward, the prospect is brighter. Civil service reform promises at length to bring order out of political chaos. The clear and constaneous movement toward fraternization, not to say consolidation, of sects indicates the ultimate reunion of the body of Christ. Already has this amicable spirit affected education. As fast as sects and churches have caught it, have they disbanded the schools of the sect, and thrown their influence in support of the school of the Christian community. We are emerging, then, from chaos. There is a certain spirit of the age which assists. We look to our knowledge of the knowable, rather than to our surmises about the unknowable. Ours is the age of science, not of superstition. The spirit of the age appears in the higher education of modern nations. It has transformed the universities of Europe from strongholds of ecclesiasticism into grand emporiums of knowledge and

research. The university will at length appear in America. Has it not yet appeared? Are there not among the hundred and more institutions calling themselves universities, some which in character correspond to the title? Probably not. Why? Simply because they are loaded down,—handicapped with a vast burden of work which has no place in genuine universities. Now it needs to be sounded up and down the land that there can be no genuine university in America until there shall have been developed atop of the primary schools a system of secondary schools, more extensive and efficient than those now existing, in which students may do all the work which precedes a proper university course.

The people need to understand that there is a natural division of education-work into three distinct but adjacent epochs: the primary education for the child, the secondary education for the youth, the superior education for the adult. No system can be complete and orderly which does not embrace these three, properly assorted. If we have no genuine universities in our country, it is because we have no suitable system of secondary schools. In the attempt to build universities before developing secondary schools, our States have reversed the order of nature. Everywhere the cry needs to be raised,—"No more colleges, no more universities, till we have more and better middle schools!"

We need, then, secondary schools of high rank, with courses of study extending about midway up the average college course, as the foundation for the genuine university. We also need them for their own work and influence. The Americans have been called the most common-schooled, and least-cultured people in the civilized world. Matthew Arnold is probaly right in pronouncing us a vast horde of Philistines, happily unburdened, however, as his English countrymen are not, by a vulgarized populace and materialized barbarism. Mr. Arnold proposes, as the remedy both for England and America, the development of the secondary education. The common schools must continue to teach children those rudiments indispensable to the civilized man. The secondary school is needed to diffuse culture and develop directive power. The development of the secondary education will simplify many vexatious educational problems.

First: The problem of elective studies. In primary schools there will be no elective; in universities there must be absolute election; in secondary schools there will be merely the election between literary and technical careers. The steady, patient pursuit of some line of studies, approved by experience throughout the period of youth, is essential to education in the true sense of that word. The pres-

ent American college being about half university and half secondary school, we have a miscellaneous confusion of methods and discipline.

Second: The dormitory problem. Build up the high grade secondary school in every considerable town, to which the youth may resort from their own homes, and not much remains of this question. The modern, the Protestant idea is to link home and school fast together; it is the mediæval, the monastic idea, which segregates youth from home and parents, and places them under the care of teaching priests.

Third: The coëducation problem. Build up the local high school till it shall be the homologue of the gymnasia of Germany, or lyceum of France, and let your daughters resort to it from the safe harbor of home, and this problem is more than half-solved at once.

Fourth: The problem of industrial education. We shall soon be obliged to follow the example of older civilizations in respect to this education. The attempt to organize industrial work in connection with literary colleges has not proved seccessful, and will not. This education assorts naturally with that of the secondary epoch, and forms part of the training of youth.

Fifth: The problem of business education; and sixth, that of the military education. Both of these fall naturally into the secondary epoch, and have no place among the studies which occupy the grown man in the university.

The genuine university awaits, then, the previous arrival of the secondary school. When it shall appear it will be recognized, not by the splendor of its housing and equipments, but by these two signs: 1. A large body of mature students whose secondary education shall have been completed, and who are ready for the studies of men; and 2. By a body of teachers who are experts and specialists, conducting and administering its affairs. Given these two things and they form a university, no matter if they meet in sheds and lofts.

It is of the nature of the university to have all knowledge for its province. All sciences have a common bond, and are at home within her precincts. The linguistic, historic, and philosophic sciences will ever hold their place. The political sciences, now that democracy has come and come to stay, have an importance vaster than ever. If the people will govern themselves, the people must know,—good fellowship and patriotism will avail nothing without knowledge.

The genuine university, then, lies in the future. The college of the present day is doing such work as there is to do. Since no magic can give both at once, it is doubtless far better to be much common-schooled than much cultured. The work of the generic university is not worth while, except as it arises from and responds to a wide and deep general culture. The immediate work for America is the development of their secondary education.

LEROY D. BROWN.

In October last Superintendent LeRoy D. Brown, of Hamilton, was elected to the office of State Commissioner of the schools of Ohio. The choice is a fit one, for Mr. Brown is not only a clear and fruitful thinker, but one of the most vigorous and valuable workers in the profession. He has, in an eminent degree, that openness of mind which is just now so much needed in education, and from which we have the right to expect the broadest and truest service. He was born in Noble County, Ohio, November 3, 1848, and in early boyhood received simply the wholesome and natural discipline of common farm-life. He is thus a true representative of the people, and his career is a refreshing illustration of that success which effort and intellect and courage may always hope to win. His father was a vigorous and clear minded farmer, and gave his son such educational advantages as the neighborhood in which he was reared would permit. What is more noteworthy, perhaps, he placed in his library a few choice books, and from these LeRoy gained that intellectual impulse which seems to have determined his future work. His mother, who is still living, is a person of great intelligence and of pure and beautiful habit of life.

At an early age Mr. Brown left school to join the Union Army, in which he served till the close of the war. As a soldier he was firm-tempered, true and, loyal, and was honorably discharged after the final victory of the nobler cause. He was engaged in many battles, and they proved to him a stern discipline in all manliness. In the year 1869 he entered the Ohio Wesleyan University at Delaware. From this institution, after several intervals of teaching, he was graduated in the regular classical course. He possesses Emerson's mark of a strong and successful man; namely, a bias toward a particular pursuit, and after leaving college, adopted teaching as a permanent vocation. He taught with rare success at several points in Eastern Ohio,—Caldwell, Newport, and Belpre, being some of his earlier fields of work. Before leaving Belpre, although working in a small community, he showed many of the admirable qualities which distinguish a rue master of his calling, and as such a master he was recognized by the most distinguished educators who had the pleasure of knowing him. For some time he was principal of the schools of Eaton, O. Here he showed the same traits as a teacher and organizer and scholar that he had shown in Eastern Ohio, and it was while in Eaton that his fine executive powers began to be recognized throughout the State. In March, 1875, he was elected Superintendent of the schools of Hamilton, in which place he has done his maturest and most admirable work. Under his supervision the High School has been consolidated and rendered more valuable, and every department of the schools made to reflect the strongest and best educational methods. In dealing with his teachers, Mr. Brown

shows the art of a fine superintendent; that is, he leads them to a right knowledge of their vocation in such a way as to still leave them that freedom which is essential to the truest and most inspiring instruction. His new course of study is free from narrowness, and shows him to be conversant with the clearest and best educational thought of his time. He puts in practice the soundest principles of the "new education," though he is too wide a reader and thinker not to know that there are many ways of acquiring power.

While Mr. Brown values highly the few thinkers who have written adequately on the subject of pedagogy, he knows that he cannot be a great teacher who does not live in an atmosphere of the best thought. He is, therefore, a sincere student of the noblest productions in pure literature. This fine and fruitful knowledge of books he has supplemented by wide and observant travel both in America and Europe. In recognition of his fine scholarship he has recently received the honorary degree of Doctor of Philosophy Mr. Brown's prevailing energy is shown by the fact that in the midst of his professional work he studied law and was admitted to the bar. He also found time for valuable work in educational journalism, having been at one time associate editor of the *Public School Journal* and until recently the Ohio State editor of *The Journal of Education*.

It is too soon to outline with much fullness Mr. Brown's policy as Commissioner of the schools of Ohio. It is known, however, that in addition to carrying forward the admirable work of his predecessor in office he will make special effort to render more truly effective the present school laws of the State. His large experience as a school examiner has convinced him that one way of liberalizing the entire profession is to lift examinations from the sphere of pedantry to the sphere of scholarship. He believes that intellect and professional skill are entitled to be treated worthily, and by forming none but adequate tests of scholarship and ability, he hopes to induce more real teachers to obtain permanent certificates and adopt teaching as a permanent calling. It will be his aim also to render effective the present law, permitting the establishment of schools of higher grade in each township. Nothing certainly will tend more to give the country schools a true vigor and elevation than the creation of such a public sentiment as will lead to the practical carrying out of this law than this; indeed, no more important work awaits the fine intelligence and resolute energy of the new Commissioner.

Finally, Mr. Brown believes that teaching can only become a profession of commanding influence and worth by winning to its service the best ability. Method is much; but, at least, we must have superior teachers if we are to have superior schools. As a vocation, therefore, teaching should be so thorougly respected and so well paid as to induce the noblest young men and young women to adopt it as a life-work. Only thus, he thinks, can the new profession assume its true place among the callings of men, and to the end that it may assume such a place he is willing to give to it the greatest energy and best thought of his life.

REPORT OF THE UNITED STATES COMMISSIONER OF EDUCATION FOR 1881.

General Eaton's latest report is a volume which will repay careful study, dea ing as it does with one of the most important public interests. According to this report our school population is 16,265,089,—a number larger and more variously constituted than that of any other western nation, Russia excepted. Comparisons between school population and the enrollment in public schools are misleading, on account of the difference in the legal school age in the several States. A better idea of the extent to which our people avail themselves of the schools is obtained by comparing the enrollment; viz., 9,860,333 with the number of youth between 6 and 16 years of age; viz., 11,771,437.

So far as the means of education supplied by the public schools can be tabulated, they may be readily gathered from the statistical summaries before us. The total teaching force is 289,159, or one teacher for every 34 scholars enrolled; for every 56 of the school population, and for every 173 of the total population. From a statement in the Commissioner's report, it appears that there is in Prussia, on the average, one teacher for every 78 children liable to school attendance, and for every 446 inhabitants. The number of teachers of all grades in the inspected schools of England, Scotland, and Wales gives one for every 53 scholars enrolled and for every 452 inhabitants. In Norway, where an obligatory law is in force, the number of teachers equals one for every 64 scholars enrolled, and for every 475 of the total population. In each case it will be seen the figures are flattering to our own country. The total income available for the public schools in 1881, was $88,142,088, to which should be added the interest on $186,143,452, the estimated real value of sites, buildings, and all other school property. The expenditures amounted to $85,111,422. These resources are derived from State tax, local tax, and permanent funds, and are very unevenly distributed throughout the country. Local tax is the chief source of income in the following: The New England States, New Hampshire excepted; the Middle States, New York excepted; the North Central States, Indiana and Colorado not reporting; the South Central States, Kentucky and Arkansas not reporting; one Pacific Coast State, viz., Nevada; one Gulf State, viz., Mississippi; three territories, viz: Montana, Utah, and the District of Columbia. Estimated upon enrollment the per capita expenditure was above $15 in six of the States, and below $3 in six, the latter all belonging to the group of recent slave States. In England the inspected schools were maintained the same year at an expense of about $6.50 per capita of enrollment, an average which is exceeded in 27 of our States.

As to the application of the funds, it appears that teachers' salaries absorb $55,291,022. The table of average monthly salaries shows that

these ranged from $25.45 in South Carolina to $99.50 in Nevada for men, and for women from $16.84 in Vermont to $74.76 in Nevada. It is not easy to define what a fair living salary would be, so many conditions are involved; but it is evident that the general average, in rural schools, is below the minimum of any just estimate. So far as reported, the salaries of superintendents amounted to $1,151,804. Every year affords new evidence of the important relation which these officers bear to the efficiency of our schools. Through their persistent efforts the "district system," which, as the Commissioner observes, "is in the way of every measure of progress suggested by experience," is being legislated off the stage. Teachers' Institutes are the especial care of superintendents, and it is also mainly through their exertions that the daily routine of the country schools is developing into a progressive system of instruction. Among the most important means to this end are the definite courses of study for country schools adopted in many States.

City schools, it need hardly be said, differ essentially from country schools in their organization and resources. The 251 cities tabulated comprise school population and enrollment a little above 17 per cent. of that for the whole country, while the expenditure upon their schools is 32 per cent. of the total expenditure. In Southern cities school accommodation is yet not well up to the demand; in the majority of northern cities it is. Where deficiency exists in the latter it is occasioned "by the rapid increase of population, and is complicated with the problems of immigration, pauperism, and the labor of children." That the deficiency can be overcome is evident from the results shown in Boston, where the enrollment is 88 per cent. of the whole school population, while there is accommodation in the schools for 92 per cent.

In popular discussions of the evils, the facts bearing upon truancy and absenteeism are very generally exaggerated. The Commissioner justly observes that, "in order to arrive at a fair estimate of the number of non-attendants and irregular attendants upon schools who are likely to sink into illiteracy, we should have (1), as a common basis of calculation, the period to which compulsory school laws are applied, where such are enacted; (2) the school census for each of those years; and (3) the number of non-attendants and habitual absentees for each of those years." It is difficult to express in an official record the progress of the schools in respect to those ideal conditions that are the determining factors in the development of the young. Only those who are personally familiar with the facts can understand the full significance of the improved methods of instruction and discipline, the larger provision for those exercises which give skill and precision in the manual arts, and the increased attention to those influences which promote the health and stimulate the moral development of the young. The report certainly confirms the opinion very generally expressed by foreign critics of our common schools, that we have found the cram system a false educational basis, and are rapidly retracing our steps.

We have so long been accustomed to regard ourselves as a reading and writing people, *par excellence*, that we cannot be too frequently reminded of our opposite tendencies. The report under consideration deals effectively with the subject; space does not permit more than an allusion to the principal points. Of white persons from 10 to 14 years of age, inclusive, 11.8 per cent. are illiterate; of colored persons, 66.2 per cent. From 15 to 20 years, inclusive, the white illiterates are 7.2 per cent. of the total number; colored, 62.7; giving as a total of colored illiterates between 10 and 20 years of age, inclusive, 1,072,523, a weight which it is hardly necessary to remind the reader is upon the Southern States.

The school resources of these States are set forth with fullness and impartiality in the report, and are manifestly unequal to the demand. Even in view of later representations of the remarkable advance in property valuation, etc., which has taken place in the recent slave States since 1879, it is impossible to resist the conviction that the appeal for national aid to common schools is simply a protest against national disgrace and disaster.

A special study of illiteracy in twenty-four of the leading cities of the Union shows that the number of illiterates in these, below 20 years of age, is a very small proportion of their total illiterates, and makes it clear that the illiterate masses with which our municipal authorities must deal are chiefly foreign-born or colored, and of adult years.

The necessity of special training for teachers is so universally recognized that the frequent attacks made upon normal schools in this country must be attributed to unpardonable ignorance of well-established principles and of the practices of nations whose progress cannot be a matter of indifference to ourselves. The Commissioner gives very full information as to the provision for this work among us; we have only to regret the absence of data for comparing this provision with the same in other countries.

The total number of schools that nominally provide for the training of teachers is 225. These include 112 private schools, some of which are doing excellent work in the direction specified, but which as a class are not well equipped for the service, and are not subject to any tests or supervision by which a special work is kept up to a high mark. The public normal schools have larger resources, are subject to constant inspection, and have been so frequently investigated at the instance of their opponents as to warrant the conclusion that their survival is proof of excellence. It is not easy to distinguish between the academic and professional work of these schools, as will be seen by a glance at the classification of their scholars.

Here arises an important question: How shall normal schools, high schools, schools of science, and colleges be so adjusted as to prevent waste by overlapping and duplicating courses? A question that becomes more and more serious, as the relations between science and industry are more clearly perceived, and the demand for teachers of specialties increases.

With respect to their pedagogic function, the normal schools differ greatly.

A few summer normals or normal institutes, and a few departments or chairs in State universities are included in the table, while the schools proper vary in the length and adaptation of their courses. These differences correspond to differences in the conditions of elementary education which exist everywhere, and call for such a gradation in normal schools as is embodied in the Prussian scheme. We have, virtually, like gradations; what we want now is their formal recognition, and distinct organization.

A glance at the columns of students and graduates will show how small a proportion of our teachers profit directly by the superior training. Something of its benefits, however, is imparted to the body of untrained teachers, through the teacher's institutes. Here we have an agency which, at a comparatively small expense, might be converted into the lowest grade of training schools, and sufficiently extended to cover the demand.

Those who consider our expenditure upon normal schools excessive will do well to look at corresponding foreign estimates. For a fair basis of comparison we may take the cost of the seven normal schools in the Netherlands, amounting in 1881 to 473,943.25 florins, about $27,490 each.

In the record of institutions that give, or profess to give, instruction above the elementary grade, we are met with a singular mixture of worth and pretension. An institution authorized to confer the B A. is a college or university even if it has no productive funds and no advanced scholars. In the case of schools for women the distinction between secondary and superior seems to be a mere matter of fancy. Taking the institutions at their own showing, we have in all secondary courses 224,815 pupils, or about 1 in every 223 of the population. Such of the schools as are supported by public funds are obliged to maintain a certain standard; the scholastic merit of the private institutions can only be inferred from their individual reputation, patronage, faculties, and resources. With the record before us we must admit the worst that has been affirmed of our conduct of this department, but we cannot allow that the worst is the whole truth. In a section which includes schools like the Boston high schools, Phillips Academy, Worcester County Free Institute, Columbia Grammar School; in a section which includes the Rose Polytechnic, the St. Louis Polytechnic, and whose high schools have been adjusted to a university of excellent standing, it cannot be said that secondary instruction is without organization, coördination, method, and purpose.

In closing his summary of this topic the Commissioner observes:

"It is important that the qualification of teachers and the curricula of secondary schools should correspond to some rational system of training. Here we have much to learn from European nations, in which secondary education is better organized, and adjusted more skillfully to the requirements of highly civilized and populous communities than in our own country." And again, "The keenness of international competition (in which we are becoming constantly more involved), the growth of our business interests, the development of superior instruction,—*i. e.*, that which occupies students up to twenty-four or twenty-five years of age—urge us to fol-

low the example of European nations in the adaptation of secondary training. We are met at the outset of every such endeavor by the necessity for a fuller and more reliable presentation of the facts which must determine our adjustments. What is the proportion of scholars in each of these specified classes? What is the course which each pursues, and with what results? The demand for such information is increasing. Each institution seeks to know what others of the same grade are accomplishing, and those who meet for the general discussion of education realize the fatuity of counsels not based upon a knowledge of facts. In view of these manifestations I can but hope that the time is not distant when the teachers and officers of secondary schools will agree upon such a representation of the conditions of their work as the public interests demand."

Our survey of secondary instruction ought to embrace many schools, tabulated as superior schools for women, colleges, and schools of science, which are evidently not equipped for the work of liberal culture, or for a high order of special training. If these could be induced to rate themselves according to their quality, the role of superior institutions would be cleared of some amazing incongruities.

One of the most important facts in our recent history is the expansion of a few institutions which may justly be named superior. The recognition which this development receives abroad is sufficient evidence of its soundness and fullness. However satisfied we may be with ourselves, the satisfaction is enhanced by the favorable judgment of the best authorities; hence it comes to pass that our pride in such institutions as Harvard, Johns Hopkins, and Michigan University is strengthened by the knowledge that European savants are studying the details of their organization and publishing their achievements.

We must pass over the remaining topics of the comprehensive report here briefly reviewed, noting only the record of private benefactions to education during the year. The total ($7,440,224) is perhaps not large in proportion to our wealth, but the increase ($2,190,414) over the same for 1880 is encouraging.

As we close the volume the recent words of a German scholar came to mind with the sense of their special appropriateness to ourselves: "The glory which is achieved by martial exploits and conquests we may share with the most barbarous people, those with whom we should disdain comparison, the glory which is due to enlightenment, to moral elevation, can be shared only with the most civilized people, with the most illustrious benefactors of the race.

VALUABLE BOOKS.

ART.

The past year has been fruitful in standard books in almost every department of knowledge. Among the more prominent works on Art are: *Greece: Pictorial, Descriptive, and Historical*, by Christopher Wordsworth; new and revised edition, edited by H. F. Tozer, M. A.; with 450 illustrations of scenery, architecture, and fine arts; by Scribner & Welford, New York; price, $12.00. *Dumas's Art Manual*, an illustrated edition of the exhibitions of the world for 1882; containing about 250 original drawings, by J. W. Bouton, New York; price, $1.25. *A History of Art in Ancient Egypt*, by G. Perrot & C. Chipiez; edited by William Armstrong; with more than 600 illustrations; 2 vols. 8vo, 900 pages; by A. C. Armstrong & Son, New York; price, $15 50. *W. M. Hunt's Talks on Art*, compiled by Helen M. Knowlton; 8vo, 95 pp.; by Houghton, Mifflin & Co., Boston; price, $1.00. *Japan: Its Architecture, Art, and Art Manufactures*, by Christopher Dresser; with 200 engravings on wood, for the most part by Japanese artists; square crown, 8vo, cloth, gilt top; by Scribner & Welford, New York; price, $10.00. *Every-Day Art: Short Essays on the Arts not Fine*, by Lewis Foreman Day; with 80 illustrations; by Scribner & Welford, N. Y.; price, $3 00. *Illustrated Text-Book of Art Education*, edited by Edward J. Poynter, R. A.; each volume contains numerous illustrations for the use of students; by Scribner & Welford, New York; price per volume, $2.00. *English Painting*, by H. J. Wilmot Buxton, M. A., and S. R. Koehler; including an account of the earliest paintings known in England; 80 illustrations: by Scribner & Welford, N. Y. *Notes on the Principal Pictures in the Louvre Gallery at Paris, and in the Brera Gallery at Milan*, with illustrations, by Charles L. Eastlake; 4to, 443 pp.; by Houghton, Mifflin & Co., Boston; price, $2.00. *The Early Homes of Prince Albert*, by Alfred Rimmer; beautifully illustrated with tinted plates and numerous engravings on wood; 8vo.; by Scribner & Welford, New York; price, $8.40. *Modern Perspective*, by Wm. R. Ware; with portfolio of plates; 12mo, 321 pp.; by James R. Osgood & Co., Boston; price, $5.00. *Etched Studies for Interior Decorations and Domestic Furniture*, by H. W. Battley; ten etchings in portfolio; folio; by Scribner & Welford, New York; price, $20.00. *Lectures on Painting*, by Edward Armitage, R. A.; 29 illustrations by the author; 8vo; by Scribner & Welford, New York; price, $3 00. The same firm published *Practical Notes on Etching*, by R. S. Chattock, with 8 illustrations showing the stages and processes of the art; 8vo; price, $3.00. *Introductory Lessons in Drawing and Painting in Water Colors*, by Marion Kemble; 12mo; 94 pp.; S. W. Tilton & Co., Boston; price, 50 cts. *Modern Painters*, by John Ruskin; John Wiley & Sons, New York; price per volume, $3.00. *Water Color Painting, Flower Painting, Wild Flowers* (40 plates), *Garden Flower Portfolio* (40 plates); by Cassell & Co., New York; each series, $1.50. *Art of England*, by John Ruskin; John Wiley & Sons, New York. *Decoration in Painting, and Sculpture*; 5 vols.; 4to; by Scribner & Welford, New York; each volume, $3 00. *Photo-Micrographs, and How to Take Them;* illustrated; by Geo. M. Sternberry; James R. Osgood & Co., Boston; $3 00. *Decorative Placques;* designs by G. F. Barnes; verses by Mary E. Wilkins; 8vo; D. Lothrop & Co., Boston, $1.50. *Purgatory and Paradise;* illus. by Doré; Cas-

sell & Co., New York; $10.00. *The Princess*, by Tennyson; illustrated by eminent artists; Houghton, Mifflin & Co., Boston; $10.00; also *Twenty Poems of H. W. Longfellow*, by the same publishers, illustrated by Ernest W. Longfellow; 50 engravings and portrait; $9.00. *Wild Flowers of Switzerland, or a Year Amongst the Wild Flowers of the Alps;* folio; 16 plates: by Scribner & Welford, New York; $15.00. *Original Etchings by American Artists;* 20 etchings; parchment. De Luxe, and regular editions, by Cassell & Co., New York; parchment, $300 00; De Luxe, $125.00: regular edition, $20.00.

BELLES-LETTRES.

Side Lights on English Society: Sketches from Life, Social and Satirical, by E. C. Greenville-Murray; illustrated with 309 engravings; 8vo, 450 pp.; Scribner & Welford, New York; $4.00. *The Poet of the Breakfast Table*, with new preface, by Oliver Wendell Holmes; crown 8vo, 418 pp.; Houghton & Mifflin & Co., Boston; $2.00. *The Promus of Formularies and Elegancies*, being private notes in 1594 (hitherto unpublished), by Francis Bacon; illustrated and elucidated by passages from Shakspeare by Mrs. Henry Pott, with preface by E. A. Abbott, D.D.; 8vo, 628 pp.; Houghton, Mifflin & Co., Boston; $5.00. *Chats About Books*, by H. M. Hazeltine; 12mo; Charles Scribner's Sons, New York; $1.50. *Highways of Literature*, by Daniel Pryde, LL.D.; 12mo; Funk & Wagnalls, New York; 75 cts. *Imagination, and other Essays*, by George Macdonald, D.D.; crown 8vo, 330 pp.; D Lothrop & Co., Boston; $1.50. *The Epic of Kings*, from the Persian of Firdusi; translated by Helen Zimmern; 12mo, 339 pp.; Henry Holt & Co., New York; $2.25.

BIOGRAPHY.

Ole Bull, by Mrs. Sara C. Bull; 12mo; Houghton, Mifflin & Co., Boston; $1.50. "American Statesmen Series," edited by John T. Morse, Jr.; each $1.25: *John Quincy Adams*, by John T. Morse, Jr.; *Alexander Hamilton*, by Henry Cabot Lodge; *John C. Calhoun*, by Dr. H. Von Holst; *Andrew Jackson*, by Prof. William G. Sumner; *John Randolph*, by Henry Adams; *James Monroe*, by D. C. Gilman; *Thomas Jefferson*, by John T. Morse, Jr.; *Daniel Webster*, by Henry Cabot Lodge; *James Madison*, by Sidney H. Gay; *Albert Gallatin*, by John Austin Stevens; *Henry Clay*, by Hon. Carl Schurz; *Patrick Henry*, by Prof. Moses Coit Tyler, and others to be announced. *Henry Ward Beecher: Aspects of his Life*, by Lyman Abbott; Funk & Wagnalls, New York; $3.00. *Life of Cromwell* by Paxton Hood; Funk & Wagnalls, New York; $1.00. *John G. Whittier*, by James Underwood; James R. Osgood, Boston; $1.50. *Oliver Cromwell: The Man and his Mission*, by J. A. Pictou; Cassell & Co., New York; $2.50. *Recollections of Arthur Perrhyn Stanley*, by George G. Bradley; Charles Scribner's Sons, New York; $1.00. *The Life of Ralph Waldo Emerson*, by Alex. Ireland; D. Lothrop & Co., Boston; $1.50. *The Letters and Memorials of Mrs. Carlyle;* Annotations by Thomas Carlyle; edited by J. A. Froude; 2 vols. Charles Scribner's Sons, New York; $4.00. *Life of Lord Lawrence*, by R. Roswell Smith; 2 vols.; Charles Scribner's Sons, New York; $5.00. *Autobiography of Erastus O. Haven, D.D., LL.D.*, edited by C. C. Stratton, D.D.; with introduction by Rev. J. M. Buckley; 12mo, 329 pp.; Phillips & Hunt, New York; $1.50. *Biography of William Cullen Bryant*, by Parke Godwin; with two steel portraits; 2 vols; D. Appleton & Co., N. Y.; $6.00. *Oliver Wendell Holmes*, by W. Sloane Kennedy; S. E. Cassino & Co., Boston; $1.50. *Memoirs of John Adams Dix*, edited by Morgan Dix; 8vo, 2 vols.; Harper & Bros., New York; $4.00. *John G.*

Whittier: His Life, Genius, and Writings; with illustrations by W. Sloane Kennedy; D. Lothrop & Co., Boston; $1.50. *Successful Men of To-Day*, by Rev. W. F. Crafts; Funk & Wagnalls, New York; $1.00. *Life of Franklin Pierce*, and a *Biographical Sketch* by Geo. P. Lothrop, by N. Hawthorne; crown 8vo; Houghton, Mifflin & Co., Boston; $2.00. *Twelve Americans*, by Howard Carroll; 12mo, 473 pp.; Harper & Bros., New York; $1.75. *Life of Bacon*, by B. G. Lovejoy; 12mo; D. Lothrop & Co., Boston; $1.00. *Life of James Buchanan*, by George Ticknor Curtis; 8vo, 2 vols., 1,280 pp.; Harper & Bros., New York; $6.00. *Sketch of the Life of William Green, LL.D.*, by Philip Slaughter, D.D.; Randolph & English, Providence, R. I.; $1.75. *Life of Helena Modjeska*, by J. T. Altemus; 12mo, 217 pp.; F. S. Ogilvie & Co., New York; $1.00. *Life and Achievements of Edward Henry Palmer*, by Walter Besant; 12mo, 400 pp; E. P. Dutton & Co., New York; $3.00. *Henry Irving, Actor and Manager*, by William Archer; Scribner & Welford, New York; 40 cents. *Life of John Wesley, and the Life of Charles Wesley*, by John Whitehead, M.D.; John E. Potter & Co., Philadelphia; $1.50. *Life of Martin Luther*, by Prof. Julius Köstlin; translated by J. G. Morris, D.D., LL.D.; 8vo, 496 pp.; The Lutheran Publication Society, Philadelphia; $3.50. *Philip Reis, Inventor of the Telephone;* a biographical sketch, etc., by Silvanus P. Thompson, B.A.; 8vo; E. & F. N. Spon, New York; $3.00. *The Life of Thurlow Weed, Including his Autobiography*, edited by his daughter, Harriet A. Weed, and a memoir by his grandson, Thurlow Weed Barnes; 2 vols.; Houghton, Mifflin & Co., Boston; $7.50. *Anthony Trollope*, an autobiography; Harper & Bros., New York; $1.25.

EDUCATION.

Test Problems in Algebra, by Furness, Smith, and Brownell; Van Antwerp, Bragg & Co., Cincinnati; 60 cts. *Wedgewood's Topical Analysis*, by Geo. S. Wedgewood; S. R. Winchell & Co., Chicago; 50 cts. *The Clarendon Dictionary*, W. H. Brown and S. S. Haldeman; University Publishing Co., New York; 45 cts. *The Odessey of Homer*, by S. H. Butcher, Macmillan & Co., New York; $1.00. *Text-Book of Geology*, by Archibald Geikie; Macmillan & Co., New York; $7.50. *The Crittenden Commercial Arithmetic and Business Manual*, by John Groesbeck; Eldredge & Bro., Philadelphia; $1.35. *French Syntax*, by James A. Harrison; John E. Potter & Co., Philadelphia; $1.50. *A Greek-English Lexicon*, by George Liddell, D.D.; Harper & Bros., New York; $10.00. *Lessons in Physiology and Hygiene;* Eldredge & Bro., Philadelphia; 85 cts. *Study of Organic Chemistry*, by Albert Pinner; John Wiley & Sons, New York; $2.50. *The Modern Series of Readers;* Taintor Bros., Merrill & Co., New York; four books, 20 cts., 42 cts., 52 cts., and 82 cts. *Practical German Grammar*, by Wesley C. Sawyer, Ph.D.; S. C. Griggs & Co., Chicago; $1.00. *The Greater Poems of Vergil*, edited by J. B. Greenough; Ginn, Heath & Co., Boston; 467 pp.; $1.55. *The Materials of Engineering*, in three parts, by Robert H. Thurston; John Wiley & Sons, New York; $3.50. *Hygiene for Girls*, by Irasmus P. Davis; D. Appleton & Co., New York; $1.25. *Landmarks of English History*, by Henry J. Nicoll; D. Appleton & Co., New York; $1.75. *Thucydides*, edited by A. P. Peabody, LL.D., DD.; D. Lothrop & Co., Boston; $3.50. *Industrial Education*, by J. S. Clark; Prang Educational Co., Boston. *Translation of Plato;* Charles Scribner's Sons, New York; 50 cts. *Political Economy*, by Hon. John M. Gregory; Van Antwerp, Bragg & Co., Cincinnati; $1.20. *A Concise History of English History*, by W. M Lupton; Roberts Bros., Boston; $1.50. *The Globe Readers*, edited by Alexander F. Murison; Macmillan & Co., New York; Books I. to VI.

The Elements of Moral Philosophy, by William Austin Smith; A. S. Barnes & Co., New York; $1.00. *Yale Examination Papers;* Ginn, Heath & Co.; 85 cts. *Natural Philosophy*, by Denison Olmstead; Collins Bros., New York; $3.12. *Swinton's Readers;* six books; Ivison, Blakeman, Taylor & Co., New York. *Graphic Algebra*, by Phillips & Bebee; Henry Holt & Co., New York. *Common-School Elocution*, by J. H. Brown; J. H. Brown, Edwardsville, Ill; $1.00. *Elementary Botany*, by George Macloskie, LL.D.; Henry Holt & Co., New York; $1.60. *Extempore Speech*, by Rev. William Pettinger; Lockwood & Brooks, Boston; $1.50. *Pocket Logarithms;* D. Van Nostrand, New York, 50 cts. *Handbook of English and American Literature*, by Esther J. Trimble; Eldredge & Bro., Philadelphia; $1.00. *Butler's Series of Readers;* five books; E. H. Butler & Co., Philadelphia; for examination, full set for $1.50. *Handbook of Civil Government*, by Thomas D. Suplée; Eldredge & Bro., Philadelphia; $1.00. *Methods of Teaching*, by Albert N. Raub, Ph.D.; E. L. Raub & Co., Lock Haven, Penn.; $1.50. *Rolfe's English Classics;* 40 vols; Harper & Bros., New York; .56 each. *Notes of Talks on Teaching*, Francis W. Parker; edited by Lelia Partridge: Kellogg & Co., New York. *The Elements of Logic*, by W. Stanley Jevons; Sheldon & Co., New York; $1.00. *Development Lessons for Teachers, on Size, Form, Place, Plants, and Insects*, by Esmond De Graff; A. Lovell & Co., New York. *Mental Philosophy*, by Joseph Haven; Sheldon & Co., New York $1.44. *Brief History of Greece;* A. S. Barnes & Co., New York; $1.00. *Handbook of Mythology*, by S. A. Edwards; Eldredge & Bro., Philadelphia; $1.15. *Grammaire Française*, by J. H. Worman; A. S. Barnes & Co., New York; $1.00. *A Drill-Book in Algebra*, by M. L. Perrin; J. B. Lippincott & Co., Philadelphia; $1.25. *Political Economy*, by Arthur Latham Perry, LL.D; Charles Scribner's Sons, New York; $2.50. *A First Latin Book*, by D. Y. Comstock; John Allyn, Boston; 80 cts. *The Educational Year-Book*, Vol. V., 1883; C. H. Evans & Co., St. Louis, Mo.; $1.00. *A New Method of School Analysis*, by Charles C. P. Curd; American School Book Co., St. Louis; $.75. *How to Teach United States History, and How to Study It*, by John Tamer; A. Flanagan, Chicago; $1.00. *The Iliad of Homer*, Books I. to VI.; John Allyn, Boston; $1.50. *Methods in Written Arithmetic*, by John W. Cook; A. Flanagan, Chicago; 75 cts. *Lippincott's School Readers;* six books edited by Marcius Willson; J. B. Lippincott & Co., Philadelphia. *A Natural History Reader*, by James Johonnot; D. Appleton & Co., New York; $1.50. *Natural Philosophy*, by Isaac Sharpless; J. B. Lippincott & Co., Philadelphia. *Maury's Physical Geography, Shorter Course;* University Publishing Co., New York; $1.20. *Astronomy*, by Simon Newcomb, LL.D.; Henry Holt & Co., New York; $1.40. *The Elements of Chemistry*, by Edwin J. Houston: Eldredge & Bro., Philadelphia; $1.50. *School Management*, by Joseph Landon; Willard Small, Boston; $1.25.

FICTION.

Mr. Isaacs, by E. Marion Crawford; 12mo, 316 pp; Macmillan & Co., New York; $1.00 *A Complete Edition of the Works of Nathaniel Hawthorne*, with notes and illustrations, in 12 volumes; Houghton, Mifflin & Co., Boston; price, per volume, $2.00. *The Man of the House*, by Mrs. G. R. Alden (Pansy); 12mo, 400 pp.; D. Lothrop & Co., Boston; $1.50. *Joshua Davidson*, by E. Lynn Linton; 12mo; R. Worthington, New York; $1.25. *The Guardian Angel*, by Oliver Wendell Holmes; new edition; 12 mo. 420 pp.; Houghton, Mifflin & Co., Boston; $2.00. *Flotsam and Jetsam*, by Thomas Gibson Bowles; 12mo, 279 pp.; Funk

& Wagnalls, New York; $1.00. *Tangles and Corners*, by Kate W. Hamilton; 16mo, 335 pp.; Presbyterian Board of Publication, Philadelphia; $1.25. *Gathered In*, by Mrs. A. K. Dunning; 16mo, 300 pp.; Presbyterian Board of Publication, Philadelphia; $1 00. *Unexpected Result*, by E. P. Roe; 16mo; 134 pp; Dodd & Mead, New York; 75 cts. *Hot Ploughshares*, by Albion W. Tourgeé; 16mo, 610 pp.; Fords, Howard & Hulbert, New York; $1.50. *The Ladies Lindores*, by Mrs. Oliphant; Harper & Bros., New York; $1.00. *Through One Administration*, by Mrs. F. H. Burnett; 12mo, 500 pp.; James R. Osgood & Co., Boston; $1.50. *Whom Kathie Married*, by Amanda Douglass; 12mo, 350 pp.; Lee & Shepard, Boston; $1.50. *Wilhelm Meister*, by Goethe; 12mo, 724 pp; S. E. Cassino & Co., Boston; $1.50. *Cape Cod Folks*, by Miss S. P. McLean; 12mo, 337 pp.; Cupples, Upham & Co., Boston; $1.25: paper, 50 cts. *Yolande*, by Wm. Black; 12mo, 462 pp.; Harper & Bros., New York; $.100. *A Washington Winter*, by Mrs. Madeleine Vinton Dahlgreen; 12mo, 250 pp.; James R. Osgood & Co., Boston; $1.50. *A Newport Aquarelle;* Anon; 16mo 250 pp.; Roberts Bros., Boston; $1.00. *Altiora Peto*, by Laurence Oliphant; 12mo, 242 pp.; Harper & Bros., New York; paper, 20 cents. *Dickens's Complete Works;* new edition; 15 vols.; gilt in box; D. Lothrop & Co., Boston; $22 50. *Grace Darling, the Heroine of the Faroe Islands*, by Eva Hope; Thomas Whittaker, N. Y.; $1.00. *Weighed and Wanting*, by George Macdonald; George Routledge & Sons, N. Y.; $1.50. *Complete Works of Thackeray*, 11 vols.; D. Lothrop & Co., Boston; $16.50. *The Waverley Novels*, complete, by Sir Walter Scott; new edition; D. Lothrop & Co., Boston; 12 vols, 12mo; illustrated; $18.00. *A Woman of Honor*, by H. C. Bunner; James R. Osgood & Co., Boston; $1.50. *A Woman's Reason*, by W. D. Howells; James R. Osgood & Co., Boston; $1.50. *The Bodley Family in England*, illustrated, by Horace E. Scudder; 4to; Houghton, Mifflin & Co., Boston; $1.50. *The Diothas;* 16mo, 358 pp.; G. P. Putnam's Sons, New York; $1 00. *Underground City, or Child of the Cavern*, with 43 illustrations; Porter, & Coates, Philadelphia; $1.50. *Vagabondia*, by Mrs. F. H. Burnett; James R. Osgood & Co., Boston; $1.50. *The Jewel in the Lotus*, by Mary Agnes Tincker; illustrated; J. B. Lippincott & Co., Philadelphia; $1.50. *Beyond the Gates*, by Elizabeth Stuart Phelps; 16mo, 196 pp.; Houghton, Mifflin & Co., Boston; $1.25. *Fortune's Fool*, by Julian Hawthorne; 12mo, 470 pp.; James R. Osgood & Co., Boston; $1.50. *Belinda*, by Rhoda Broughton; D. Appleton & Co., New York; $1.00. *His Sombre Rivals*, by E. P. Roe; Dodd, Mead & Co., New York; $1.50. *Firelight Stories*, by Louise Chandler Moulton; Roberts Bros., Boston; $1.25. *Guenn: a Wave on the Breton Coast*, by Blanche Willis Howard; James R. Osgood & Co., Boston; $2.00.

HISTORY.

Campaigns of the Civil War, 12 vols.; each about 300 pp.; Charles Scribner's Sons, New York; $1 00 each volume. *Constitutional History and Political Development of the United States*, by Simon Sterne; 330 pp.; Cassell & Co., New York; $1.25. *History of the Negro Race in America*, by Hon. G. W. Williams; 2 vols., 8vo, 612 pp.; G. P. Putnam's Sons, New York. *History of the Jesuits*, by T. Greisinger; 2 vols., 8vo., 440 pp. and 384 pp.; G. P. Putnam's Sons, New York; $6 00. *Leading Men of Japan*, by C. Lanman; 12mo, 421 pp.; D. Lothrop & Co. *Christian History in its Three Great Periods*, by Jos. H. Allen; Roberts Bros., Boston; 3 vols, each $1.25. *Memoirs of the Court and Family of Napoleon*, by Laura, Duchesse d'Abrantes; 8 vo, 3 vols; Scribner & Welford, New

York; $12.00. *The Martyrs of the Reformation*, by Rev. C. H. A. Bulckley, D.D.; 12mo, 512 pp.: Presbyterian Board of Publication, Philadelphia; $1.75. *History of Latin Literature*, by George Augustus Simcox; 12mo, 2 vols., 468 pp. and 481 pp.; Harper & Bros., New York; $4.00. *English Literature in the Eighteenth Century*, by Thomas Sargent Perry; 12mo, 442 pp.; Harper & Bros., N. Y.; $2.00. *Landmarks of English Literature*, by H. J. Nicoll; 12mo, 459 pp.; D. Appleton & Co., New York; $1.75. *The Religions of the Ancient World*, by George Rawlinson, M. A.; 12mo, 264 pp.; Charles Scribner's Sons, New York; $1.00. *A Concise English History*, by W. M. Lupton; Roberts Bros., Boston; $1.50. *A History of the People of the United States*, by John Bach McMaster, in 5 vols.: Vol. I., 8vo, 622 pp.; D. Appleton & Co., N. Y.; $2.50. *History of the War Betweeu Chili and Peru*, by Markham; pp. 350; R. Worthington, New York; $2.50. *Chronological History of Steam Navigation*; 8vo, sheep, 500 pp.; L. R. Hamersly & Co., N. Y.; $5.00. *Four Years of Irish History*, by Sir C. G. Duffy, K.C.M G.; 8vo, 800 pp.; Cassell & Co, New York, $3.00. *Mr. Kinglake's History of the Invasion of the Crimea*, Vol. VII., "Winter Troubles;" 12mo, Cabinet Edition; Scribner & Welford, New York; $2.40. *The History of the Episcopal Church in Connecticut*, by E. E. Beardsley, LL.D.; 8vo, 2 vols., 935 pp.; Houghton, Mifflin & Co., Boston; $6.00. *An Outline of Irish History*, by Justin H. McCarthy; 12mo, 135 pp.; John Murphy & Co., Baltimore; 75 cts. *History of the Oldest British Colony — Newfoundland*, by Joseph Hatton and Rev. M. Harvey; Scribner & Welford, New York; $7.20. *The Chronicle of James I., King of Aragon, Surnamed the Conqueror*, written by himself; royal 8vo, 2 vols.; Scribner & Welford, New York; $10.00. *History of the Civil War in America*, third volume, by Comte de Paris; 8vo, 954 pp.; Porter & Coates, Philadelphia; $3 50. *Old Court Customs and Modern Rule*, by the Hon. Mrs. Armytage; 4 vols., 12mo, Scribner & Welford, New York; $4.20. *History of the United States of America, from the Discovery of the Continent*, by Geo. Bancroft; Vol. II.; 8vo.; D. Appleton & Co., New York; $2.50. *The Life and Times of Prince Charles Stuart, Count of Albany*,—commonly called "the young pretender," by Alex. Charles Ewald; 12mo; Scribner & Welford, New York; $2.25. *Stephens' United States History*, revised to 1883, by Hon. A. H. Stephens; 12mo; 525 pp.; E. J. Hale & Son, New York; $1.50. *Barnes's Brief History of Greece*, by Steele Vincent; 202 pp.; A. S. Barnes & Co., New York; $1.00. *History of England*, by Sam'l Rawson Gardiner, LL.D.; 8vo, 454 pp.; Scribner & Welford, New York; $2.40. *Literary History of the Middle Ages*, by Jos. Berington; George Routledge & Sons, New York; $1.25. *A History of the American People*, by Arthur Gilman, M.A.; 8vo.; D. Lothrop & Co., Boston; $2.50. *American Commonwealths.*—a series of volumes narrating the story of those States of the Union which have striking political, social, or economical history, edited by Horace E. Scudder; I., *Virginia*, by John Esten Cooke; II., *Oregon*, by Rev. William Barrows, D.D.; other volumes in preparation; each vol. 16mo; price, $1.25; Houghton, Mifflin & Co., Boston. *The History of Palestine from the Patriarchal Age to the Present Time*, by John Kitts, D.D.; John E. Potter & Co., Philadelphia; $1.25. *History of the Christian Church*, by Schaff; 2 vols; Charles Scribner's Sons, New York; $4.00. *History of Sculpture*, by Lucy M. Mitchell; 250 illustrations, and six full page heliotypes; 8vo; Dodd, Mead & Co., $12.50. *Lübe's History of Art*, edited, with notes, by Clarence Cook; royal 8vo, in two volumes; 600 illustrations; $14.00; students' edition, complete 2 vols.; $7.50; Dodd, Mead & Co., New York. *The Legendary History of Rome*, by George Baker, A.M.; 160 engravings, folio;

R. Worthington, New York; $7.50. *The Middle Kingdom; History of the Chinese Empire, etc.*, by S. Wells Williams; 2 vols., 8vo; Charles Scribner's Sons, New York; $9.00.

METAPHYSICS.

Energy: Efficient and Final Cause (Philosophic Series, No. 11), by James McCosh, D.D., LL.D.; Charles Scribner's Sons, New York; 12mo, 60 pp.; 50 cts. *Kant's Critique of Pure Reason*, by Prof. Geo. T. Morris, Ph D.; initial volume to *German Philosophical Classics;* 16mo; S. C. Griggs & Co., Chicago, $1.25. *Socrates; a translation of the Apology, Crito, and parts of the Phædo of Plato;* introduction by Prof. W. W. Goodwin of Harvard College; 12mo, 184 pp.; paper, 50 cts.; Charles Scribner's Sons, New York. *Final Causes*, by Paul Javet; 8vo, 544 pp.; Charles Scribner's Sons, New York; $2.50. *Mental Science*, by Edw. Brooks, Ph.D.; 12mo, 510 pp.; Normal Publishing Co., Lancaster, Pa.; $1.50. *Esoteric Buddhism*, by A. P. Sinnott; crown 8vo; Houghton, Mifflin & Co., Boston; $2.50. *Evolution*, by R. C. Adams; 47 pp.; paper, 25 cts; G. P. Putnam's Sons, New York. *Kant's Prologomena, and Metaphysical Foundations of Natural Science*, by Ernest Belford Baxter; 12mo; Scribner & Welford, New York; $2.00. *Conflict of Nature and Life;* D. Appleton & Co., New York; $2.00. *Philosophy and Christianity*, by Geo. S. Morris; Robert Carter & Bros., New York; $1.75.

POETRY.

Burns's Poetical Works and Correspondence, notes by Allen Cunningham; 8vo, cloth, full gilt; D. Lothrop & Co., Boston; $3.00. *Lyric and Dramatic Poems*, by Robert Brown; square, 12mo, 275 pp.; Henry Holt & Co., New York; $2.00. *Tennyson's Poetical Works;* illustrated by Doré, Millais, and Holman Hunt; 8vo, full gilt; D. Lothrop & Co. Boston; $3.00. *Living English Poets;* Roberts Bros., Boston; $2.00. *The Poetical Works of Wm. Cullen Bryant*, edited by Parke Godwin; square 8vo, with the Biography; 2 vols; D. Appleton & Co., New York; $6.00. *Poems by Frances Ridley Havergal;* Red Line Edition; E. P. Dutton & Co., New York; $2.50. *Sybilline Leaves*, by A. E. M. K.; 16mo, gilt; Henry Holt & Co., New York; $2.00. *Adelaide Proctor's Poems;* P. J. Kennedy, New York; $1.25. *Poems of Passion*, by Miss Ella Wheeler; Belford, Clarke & Co.; $1.00. *Surf and Wave*, by Anna L. Ward; 12mo, 600 pp.; T. Y. Crowell & Co., New York, $2.00. *The Marquandi*, by Geo. H. Calvert; 16mo, 103 pp.; Lee & Shepard, Boston; $1.00. *Jacoseria*, by Robert Browning; crown 8vo; Houghton, Mifflin & Co., Boston; $1.00.

Mary Magdalene, by Mrs. Richard Greenough; J. R. Osgood & Co, Boston; $1.50. *Moondyn*, by John Boyle O'Reilly; 16mo; Roberts Bros., Boston; $1.00. *The Lady of the Lake*, Students' Edition, by Wm. J. Rolfe; 16mo, 250 pp.; J. R. Osgood & Co., Boston; 75 cts. *Elegy in a Churchyard*, by Thomas Gray; post 8vo, 30 illustrations; Roberts Bros., Boston; $3.00. *A Dictionary of Quotations from English and American Poets*, based upon Bohn's edition; T. Y. Crowell & Co., New York; square 8vo, 768 pp.; $2.50. *Coming of the Birds*, by Elaine Goodale; 4to; S. E. Cassino & Co., Boston; $1.50. *Favorite Poems;* square 8vo, full gilt in box; T. Y. Crowell & Co., New York; $2.50. *Twenty Poems from Henry W. Longfellow;* illustrated by paintings from his son, Ernest W. Longfellow, with steel portrait; 8vo.; Houghton Mifflin & Co., Boston; $4.00 to $9.00. *Michael Angelo; a Dramatic Poem*, by Henry W. Longfellow; illustrated by eminent artists; Houghton, Mifflin & Co., Boston; $7.50 to $10.00.

SCIENCE

Heat as a Mode of Motion, new revised edition, by Prof. John Tyndall; 12mo, illustrated; D. Appleton & Co., Boston; $2.50; *Organic Chemistry*, by Profs. Pinner & Austen; John Wiley & Sons, New York; $2 50. *The Sun: Its Planets and their Satellites*, by Edmund Ledger; Scribner & Welford, New York; $4 00. *Walker's Political Economy*, by Francis Walker; 12mo. 490 pp.; Henry Holt & Co., New York; $2.25. *Fish and Fisheries*, edited by David Herbert; maps and illustrations; 8vo; Scribner & Welford, New York; $3.00. *Herbert Spencer's Descriptive Sociology;* large folio; D. Appleton & Co, New York: $7.00. *Water Analysis*, by Geo. L. Austin; 18mo, 50 pp.; Lee & Shepard, Boston; 50 cts. *Animal Intelligence*, by George J. Romanes, LL.D., F.R.S.; 12mo, 520 pp.; D. Appleton & Co., New York; $1.75. *A Visit to Ceylon*, by Ernst Haeckel; crown 8vo, 342 pp.; S. F. Cassino & Co., Boston; $2 50. *Comparative Zoology*, by James Orton; crown 8vo, 413 pp.; Harper & Bros, New York; $1.80. *Elementary Botany*, by George Macloskie, D.Sc., LL.D.; 12mo, 373 pp.; Henry Holt & Co., New York; $1.60. *Insects Injurious to Fruit*, by Prof. William Saunders, F.R.S.C.; 440 engravings; 8vo.; J. B. Lippincott & Co., Philadelphia; $3.00. *Instantaneous Marine Studies*, by David Mason Little; 4to; Cupples, Upham & Co., Boston; $3.00. *Man Before Metals*, by N. Joly; 148 illustrations; 12mo; D. Appleton & Co., New York; $1.75. *New England Bird Life;* Part II.; crown 8vo, 408 pp.; Lee & Shepard, Boston; $2.50. *Nature Studies*, by R. A. Proctor; 288 pp.; Funk & Wagnalls, New York; $1.00. *Easy Sermons in Vegetable Biology or Outline of Plants*, by Rev. J. H. Wythe; 94 pp.; Phillips & Hunt, New York; 40 cts.

TRAVEL.

At Home in Fiji, by C. F. Gordon Cumming; with map and full-page illustrations; crown 8vo, 387 pp.: A. C. Armstrong & Co., New York; $1.25. *Cities of Southern Italy and Sicily*, by Augustus J. C. Hare; 535 pp.; Geo. Routledge & Sons, New York; $2.50. *Egypt: Palestine and Phœnicia*, by Felix Bovet; 490 pp.; E. P. Dutton & Co., New York; $2.50. *Highways and Byways of Japan*, by Arthur H. Crow; Scribner & Welford, New York; $3.40. *In the Shadows of the Pyrenees*, by M. R. Vincent, D.D.; Charles Scribner's Sons, New York; $2,00. *Mexico To-day*, by Thomas U. Brocklehurst; with map, 17 colored plates and 37 engravings in wood, from sketches by the author, G. P. Putnam's Sons, New York; $2.25. *Five Fountains*, by C. F. Gordon Cumming; with map and illustrations; 2 vols., 8 vo.; Willard Small, Boston; $10.00. *Ice Pack and Tundra*, by W. H. Gilder; 8vo, 360 pp.; Charles Scribner's Sons, New York; $4.00. *On the Desert*, by Henry M. Field, D.D.; 8vo, 348 pp.; Charles Scribner's Sons, New York; $2.00. *Sketches from Europe*, by Max Burgheim; 8vo, 150 pp.; M. and R. Burgheim, New York; $1.00. *Ponkapog to Pesth*, by T. B. Aldrich; Houghton, Mifflin & Co., Boston; $1.25. *Spanish Vistas*, by G. P. Lathrop; 8vo, 210 pp.; Harper & Bros., New York; $3.00. *Travels and Observations in the Orient, and a Hasty Flight in Countries of Europe*, by Walter Harriman; 8vo, 360 pp.; Lee & Shepard, Boston: $2.50. *Across Chryse; a Narrative of a Journey Through South China, Border Lands from Canton to Mandalay*, by A. R. Colquhuon, F.R.G.S.; 3 maps and 300 illustrations; 8 vo, 2 vols.; Scribner & Welford, New York; $7.50. *An Arctic Boat Journey in the Autumn of* 1854; illustrated by Dr. I. I. Hayes; Houghton, Mifflin & Co., Boston; $1.50. *Seven Spanish Cities*, by E. E. Hale; 16mo; Roberts Bros., Boston; $1.25.

A Family Flight Through Spain, by E E. Hale and Miss Susan Hale; 4to; D. Lothrop & Co., Boston; $2.50. *Scrambles Among the Alps*, by Edward Whymper; also, *Down the Rhine*, by Lady Blanche Murphy; 8vo; J. B. Lippincott & Co., Philadelphia; $3.00. *Mexico and the Mexicans*, by Howard Conkling; 16mo, 308 pp.; Taintor Bros., Merrill & Co., New York; $1.50.

MISCELLANEOUS.

Pseudonyms of Authors, by John Edward Haynes; 8vo, 112 pp.; John Edward Haynes, New York; $1.25. *Nonpareil Cook Book*, by Miss E. A. M.; 434 pp; Jansen, McClurg & Co., Chicago; $1.50. *American Girls' Home Book of Work and Play*, by Helen Campbell; 417 pp; G. P. Putnam's Sons, N. Y.; $2.00. *How to Help the Poor*, by Mrs. James T. Fields; Houghton, Mifflin & Co., Boston; 60 cts. *Hill's Manual of Social and Business Forms*, by Thos. E. Hill; 4to, 483 pp.; Hill Standard Book Co.; $6.00 to $8.00. *Natural Instincts in Animals and Men*, by P. A. Chadbourne; 323 pp.; G. P. Putnam's Sons, New York; $2.50. *On Musical Education and Vocal Culture*, by Albert B. Bach; 8vo; Scribner & Welford, New York; $3.00. *Libraries and Schools*, by Charles Francis Adams, Jr.; F. Leypoldt, New York; 50 cts. *Living Truths*, from Charles Kingsley; introduction by Wm. D. Howells; 5 vols.; D. Lothrop & Co., Boston; each $1.00. *The Early Homes of Prince Albert*, by Alfred Rimmer; illustrated, 8vo; Willard Small, Boston; $8.40. *Hints on Home Teachng*, by Edwin A. Abbott; Scribner & Welford, New York; $1.20. *Guides and Guards in Character Building*, by C. H. Payne, D.D., LL.D.; 360 pp; Phillips & Hunt, New York; $1.50. *King's Dictionary of Boston*, by Edwin M. Bacon; 530 pp; Moses King & Co., Cambridge; $1.00. *The Cathedral Towns and Intervening Places of England, Ireland, and Scotland*, by Silloway & Powers; 361 pp; Cupples, Upham & Co, Boston; $2.00. *The Story of Ida; Epitaph on Etrurian Tomb*, edited with preface by John Ruskin; crown 8vo; Scribner & Welford, New York; $2.00 to $3.75. *The English Village Community*, by F. Seebohm; 8vo; Scribner & Welford, New York; $6.40. *Camping in the Alleghanies or Bodines*, by Thad. S. Up De Graff, M.D.; illus.; J. B. Lippincott & Co., Philadelphia; $1.25. *The Works of Ralph Waldo Emerson*, 11 vols.; Houghton, Mifflin & Co., Boston; each $1.75; the set, $19.75. *The Works of Nathaniel Hawthorne*, 12 vols.; Riverside Edition; Houghton, Mifflin & Co., Boston; each $2.00: set $24.00. *Oliver W. Holmes's Works;* new edition; 7 vols.; Houghton, Mifflin & Co., Boston; each $2.00.

FOREIGN NOTES.

GREAT BRITAIN.—*Elementary Schools, London.*—Some one pointedly observes that the London School Board is the greatest education parliament in the world; as such, its actions and deliberations are of universal interest. In the year ending October, 1883, by means of new buildings and the enlargement of old ones, the Board provided for 27 700 additional children. Mr. Buxton, the chairman, says in his annual address: "In face of the fact that, while the population of London is larger than that of Scotland, the school accommodation of London last year was only 527,000 as against 619,000 in Scotland; . . . the increase noted can not be regarded as an adequate effort to overtake the existing deficiency." It has been recently determined to erect twenty-five temporary iron buildings which can be afterwards removed to other sites, thereby minimizing the delay in accommodating children in growing districts, The table of percentages of average attendance is an interesting commentary on compulsion. In 1871 the percentage was 78.3; it fell off in the four years following, when large numbers of children were brought in by the compulsory law. These have now passed out of the schools, and a new generation has arisen, a large proportion of whom early acquired more regular habits; the consequence is a steady rise in the attendance, the average percentage for 1883 being 81.3 per cent. Mr. Buxton says, "Anomalous as it may seem, the more vigorously compulsion is enforced against absentees, the greater the tendency to an irregular attendance."

Considerably more than a quarter of a million children (311,695) are under instruction in the Board Schools, at a net cost of 1*l.* 11*s.*, and a gross cost of 2*l.* 15*s.* 10½*d.* per child. The teaching staff consists of 4,087 adult teachers, 1,107 pupil teachers, and 399 candidates. There are 2,753 children in industrial schools, received at the instance of the board.

Science and Technics.—It is difficult to keep pace with the rapid increase of provision for science instruction and technical training in Great Britain. At Huddersfield, which is a center of woolen industries, a technical school was opened Oct. 13. The school is a development of the mechanics' institute, which attracted the attention of Prince Albert in 1855 A citizen of Aberdeen, Mr. John Gray, proposes to erect a school of science and art for that town, provided the governors of Robert Gordon's college shall set apart a site on the college grounds for the purpose and assume the management of the school. The Department of Applied Science and Technology, University College, London, began the present session with enlarged facilities. Oxford and Cambridge are steadily increasing their provision for instruction in chemistry, physics, etc.; and St. John's College, Cambridge, has recently issued a notice which will, it is believe, place science

candidates more on an equality with those who pursue the older studies. In brief, candidates for fellowship at the next annual election may submit dissertations or other writings as evidence of their independent work, the matter and form of the writing being left to their own discretion The electors wish it to be understood that their decision will be influenced, among other considerations, by the proficiency in some special subjects of candidates who do not submit any writings. Such candidates may at their own request be examined in their special subjects, provided they give full and precise information in regard to it by letter addressed to the master before a specified date. The principal of the Finsbury Training College announces that two Cambridge graduates in honors, and an undergraduate who is about to take his degree, have entered the college this term, and that a London B.A. will enter in a few weeks. Meanwhile the need is becoming more and more apparent of such a society as that formed last June with Prof Huxley as president, for the purpose of improving elementary training in science. The report of the late Cambridge higher local examination states that out of sixty-six candidates in the Natural Science Group, only two gained a first class, and thirty-one failed. The examiners' comments go to show that the poor results are mainly due to the endeavor to acquire the knowledge from books, instead of by observation and experiment.

International Exhibition — It is proposed to hold during the year 1884, says *Nature*, an international exhibition, which shall also illustrate certain branches of health and education, and which will occupy the buildings at South Kensington erected for the fisheries exhibition. The object of the exhibition will be to illustrate, as vividly and in as practical a manner as possible, food, dress, the dwelling, the school, and the workshop, as affecting the conditions of healthful life, and also to bring into public notice many of the most recent appliances for elementary school-teaching and instruction in applied science, art, and handicrafts. The exhibition will be divided into two main sections,—I. Health; II. Education,— and will be further subdivided into six principal groups. In the first group it is intended specially to illustrate the food-resources of the world, and the best and most economical methods of utilizing them. In the second group, dress, chiefly in its relation to health, will be displayed. Illustrations of the clothing of the principal peoples of the world may be expected; and a part of this exhibition will be devoted to the history of costume. In the third, fourth, and fifth groups will be comprised all that pertains to the healthful construction and fitting of the dwelling, the school, and the workshop, not only as respects the needful arrangements for sanitation, but also the fittings and furniture generally, in their effect on the health of the inmates. The most improved methods of school construction will be shown; and the modes of combating and preventing the evils of unhealthy trades, occupations, and processes of manufacture, will form portions of the exhibition. The sixth group will comprise all that relates to primary, technical,

and art education, and will include designs and models for school-buildings, apparatus and appliances for teaching, diagrams, text-books, etc. Special attention will be directed to technical and art education, to the results of industrial teaching, and to the introduction of manual and handicraft work into schools.

Technical Instruction.— The Manchester Mechanics' Institute is about to set a good example by establishing classes for technical instruction in various handicraft.

Science Instruction.— In an address at the annual distribution of prizes at Gartsherrie Science School, Glasgow, Dr. Kerr, H. M. Senior Inspector of Schools, stated that he had just returned from Germany, where he had visited schools of all classes. Nothing astonished him more than the vast and costly provision for science teaching. In Hamburg, Leipsic, Berlin, Munich, and Chemnitz, he saw institutions on the most extended scale. The one at Hamburg had 80 highly trained teachers, and most complete accommodations and appliances. After a glowing account of what he had witnessed in Germany, the Inspector added that he believed the finest science school in the world was at St. Louis, in the United States.

Women Clerks.— The London School Board has passed, by a large majority, a motion to appoint a special committee respecting the employment of women as clerks of the Board. There was determined opposition, but it was contended that as the post-office admitted women to its service, work which they were competent to do ought to be open to them. In their record-book of welcome facts, this circumstance will be gladly written down by advocates of larger business facilities for women.

Oriental Languages.— On the 20th of Nov. last, the preamble of a statute was considered at Oxford University, by which natives of India are to be enabled to offer an Oriental language in place of either Greek or Latin in the "first public examinations." The preamble was carried by a vote of 54 to 16. The chief argument against the proposed change is, that if it be effected, Englishmen will want the privilege of offering French or German in place of Latin or Greek, to which the reply was, Why not?

FRANCE.—*Manual Training.*—The French school authorities show no disposition to relax their efforts for including manual training in the elementary schools. The Minister of Public Instruction has recently issued a decree creating a "certificate of aptitude" for teachers of manual work and outlining the examination for the same. Candidates must be at least twenty years of age (except by special permission), and must have taken a "superior license" or the bachelor's degree. For men, the examination embraces geometry, geometrical design, free-hand design, modeling, practical tests in chemistry, physics, or natural history (at the option of the candidate), the execution of a piece of work in wood or iron from a drawing (time allowed four hours), and the criticism of the work of scholars. For women, the examination includes a composition upon hygiene or domestic economy, an

object lesson to a primary class, an ornamental design applicable to some species of feminine work, an elementary exercise in chemistry, physics, or natural history (at the option of the candidate), and a test either in cooking or in needlework.

Paris is foremost in the absolute provision for manual training in connection with primary schools. Over a hundred schools of that city are now furnished with workshops. Wood is the material worked upon. Each shop is provided with twelve planing benches and four lathes; one boy is placed at each of the former and three at each of the latter (one to work, and two to observe him) so that twenty-four boys are employed at a time. All boys above ten years of age in the schools to which shops are attached take part, and they do not seem to dislike it, though it involves extra labor, the instruction being given outside of the regular school hours; viz., from seven to half past eight in the morning and from half-past four to six in the evening. It is not expected that such training will make workmen, but it gives a new form of activity to the boys' minds and valuable exercise to their muscles. The establishment of a workshop with its tools and material costs about $240. Iron-working will soon be introduced into one quarter of the city where it has been specially requested.

The Minister of Commerce has ordered an inquiry into the industrial and commercial schools for the purpose of securing a full report as to their age, resources, courses and methods of instruction, their results as indicated in the subsequent careers of their scholars, and the views of their managers, teachers, etc., as to the means of rendering them more efficient.

GERMANY.—*Over-pressure and School Hygiene.*—For the time being the question of classics or non-classics have given place to that of over-pressure in schools. The evil is manifested particularly in gymnasien, real-schulen and special schools, as those of agriculture. Within the last two years, commissions have been appointed in six German states to investigate the causes of the evil. As set forth in their reports, these causes are in the main excessive study-hours both at home and in school, too many branches of study, and requirements above the mental capacity of youth. For the agricultural schools, twenty-four branches are enumerated, which students entering at nine years of age and pursuing the course six years are expected to master. As the result of the reports, decrees have been issued by the governments of Prussia, Saxony, Würtemberg, Hesse, Bavaria, and Alsace, which are designed to check the overpressure. The decrees deal also with school hygiene, a subject which is being more and more considered throughout Germany. This growing interest is mainly due to the publication of Dr. Cohn's investigations made in Breslaw in 1865–66, as to the effect of school-life upon the eyesight, muscles, nerves, etc. It will, perhaps, be remembered that Dr. Cohn found the increase of near-sightedness to be in proportion to the increased strain upon the eyes by school-tasks. In village schools the per cent. of near-sighted children was 1.4; in gym-

nasien, 26.2 per cent. Dr. Cohn showed farther that nearly every hygienic requirement was violated in the construction of school furniture. Great improvements have been made in school furniture since the publication of these investigations, and the German governments generally, are legislating for the suppression of the hurtful conditions noted. Careful experiments have recently been made in the forty government institutions of learning in Saxony for the purpose of determining the atmospheric conditions and the best means of heating. According to the results which are reported by Dr. Reinhard of Dresden, president of the government medical faculty, heating by hot air secures to the room a more constant temperature and a smaller proportion of carbonic acid in the air. The air is therefore purer and healthier, and its hygrometric condition less variable. The Minister of Public Worship has ordered further experiments in this direction.

ITALY.—Primary education is in a backward state in Italy, especially in the rural districts of the south. This is owing partly to the miserable condition of the peasants, which makes it nearly impossible for the children to attend school or to profit by ordinary school instruction. The need of a change in this respect is emphasized by the eagerness evinced by the workingmen of the cities to make up in the adult schools for the neglect which they suffered in childhood. The progress of secondary schools is relatively greater than of primary.

SERVIA.—In 1882 Servia was reported to have about 600 primary schools, or one school for 3,000 inhabitants. Only one-tenth of the children attended these schools. The education of girls is in a much more backward state than that of boys. The present minister of public instruction, M. Stoian Novakovitch, has established a journal which serves as an organ for his department. From a recent article in this journal we learn that there are two normal schools for male teachers, with 196 students, and three gymnasia, with 1,103 students. This makes about 1,000 classical students among two millions of men. There are besides twenty-five pro-gymnasia, with only four classes, having 4,727 students. Superior education is represented by the institution at Belgrade This is not really a university, since it does not grant Doctors' degrees. It simply prepares young gentlemen for liberal careers. Last year there were 172 students, —86 in law, 21 in history, and 41 in pure and applied science; the rest were not specified.

BELGIUM.— Universal suffrage, limited by an educational test, is now the law of Belgium for municipal elections. An examination of the 8,357 militia-men enrolled in 1882 showed that 22 per cent. could not sign their names correctly. A further examination of those who had been at school from four to six years, showed an equally astounding amount of ignorance. The immediate result has been the establishment of schools for electors at Antwerp, Brussels, Ghent, and other large towns.